CFD-50

SERVICE MANUAL

US Model
Canadian Model

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

Full-range speakers:
With 3.2-ohm loads, both channels driven from 150-15,000 Hz: rated 2.3 W per channel minimum RMS power, with no more than 10% total harmonic distortion in AC operation.

Model Name Using Similar Mechanism	CD Section	CFD-60
	Tape Section	CFS-201
Optical Device Name		KSM-210BAN
Tape Transport Mechanism Type		MF-50RP-75D

OTHER SPECIFICATIONS

CD player section

System: Compact disc digital audio system
Laser diode properties: Material: GaAlAs
Wavelength 780 nm
Emission duration: Continuous
Laser output: less than 44.6 μW
* This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.
Frequency response: 20—20,000 Hz +1, -3 dB
Wow and flutter: Below measurable limit

Tuner section
Frequency range: FM: 87.6—108 MHz
AM: 530—1,710 kHz

Tape recorder section and general

Recording system: 4-track 2-channel stereo
Frequency response: 70 — 10,000 Hz
(with TYPE I (NORMAL) cassette)
Speaker: Full-range speakers: 10 cm dia., cone type
Power output (Canadian model): Full-range speakers: 2.3W+2.3W (at 3.2 ohms, 315 Hz, 10% harmonic distortion)

Inputs: Mixing microphone input jack (minijack)
Sensitivity 2.5 mV
For low impedance microphone
Outputs: Headphones jack (stereo minijack)
For 16—68 ohms impedance headphones
Power requirements: 120 V AC, 60 Hz
DC 9 V, 6 size D (R20) batteries
Power consumption: AC 25 W
Battery life: Batteries for radio cassette-corder (hours)

	FM Recording	Playback
Sony SUM-1 (NS)	approx. 11	approx. 8
Sony Alkaline AM1 (N)	approx. 17	approx. 12

Dimensions: 590 × 172 × 200 mm (w/h/d)
(23 1/4 × 6 7/8 × 7 7/8 inches)
incl. projecting parts and controls
Weight: Approx. 4.6 kg, incl. batteries
(Approx. 10 lb 2 oz)
Supplied accessories: AC power cord (1)

Design and specifications subject to change without notice.

使用時は添付資料も参照のこと
Refer to the additional documents.

CD RADIO CASSETTE-CORDER

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

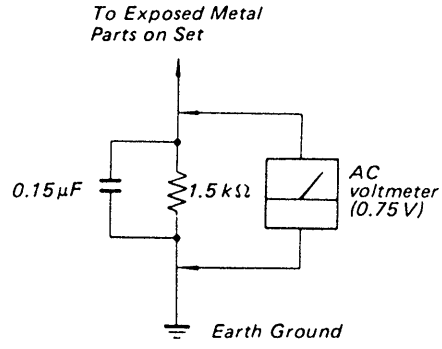

Fig. A. Using an AC voltmeter to check AC leakage.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

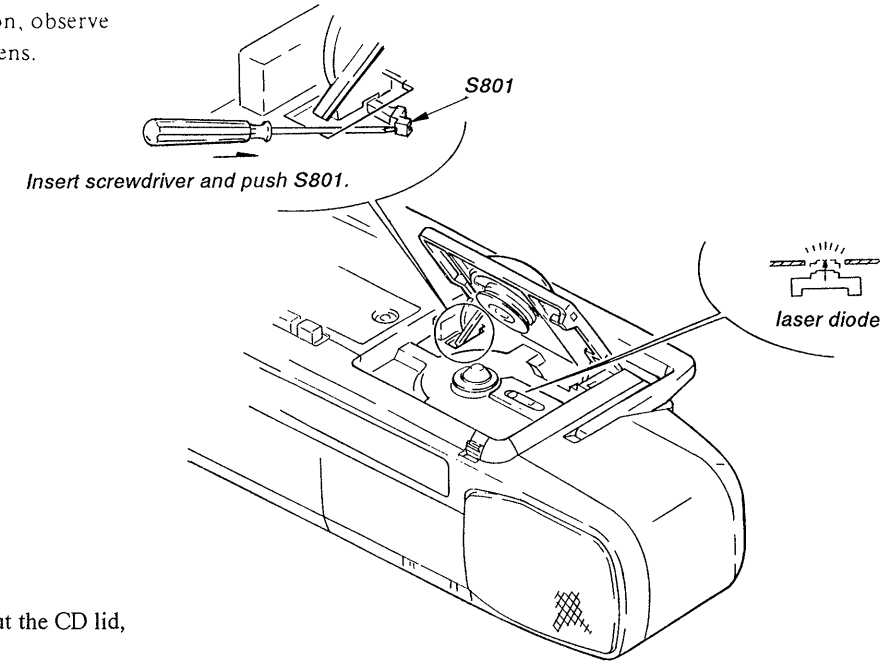
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

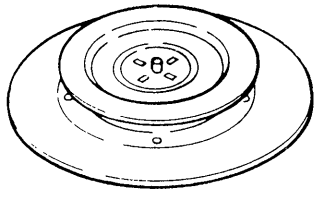
1. Make Function switch to CD position with no disc inserted.
2. Open the lid for CD.
3. Turn on S801 as following figure.
4. Press ▶ key.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus serarch.



CHUCK PLATE JIG ON REPAIRING

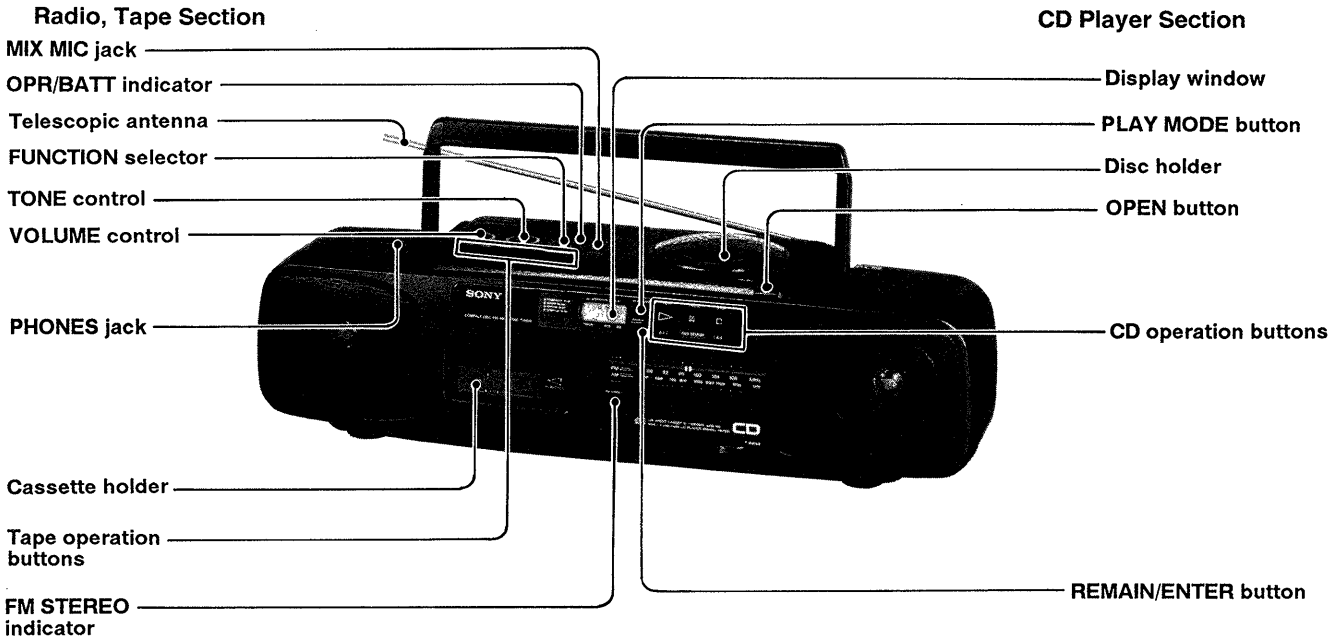
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig: X-4918-255-1



SECTION 2
GENERAL

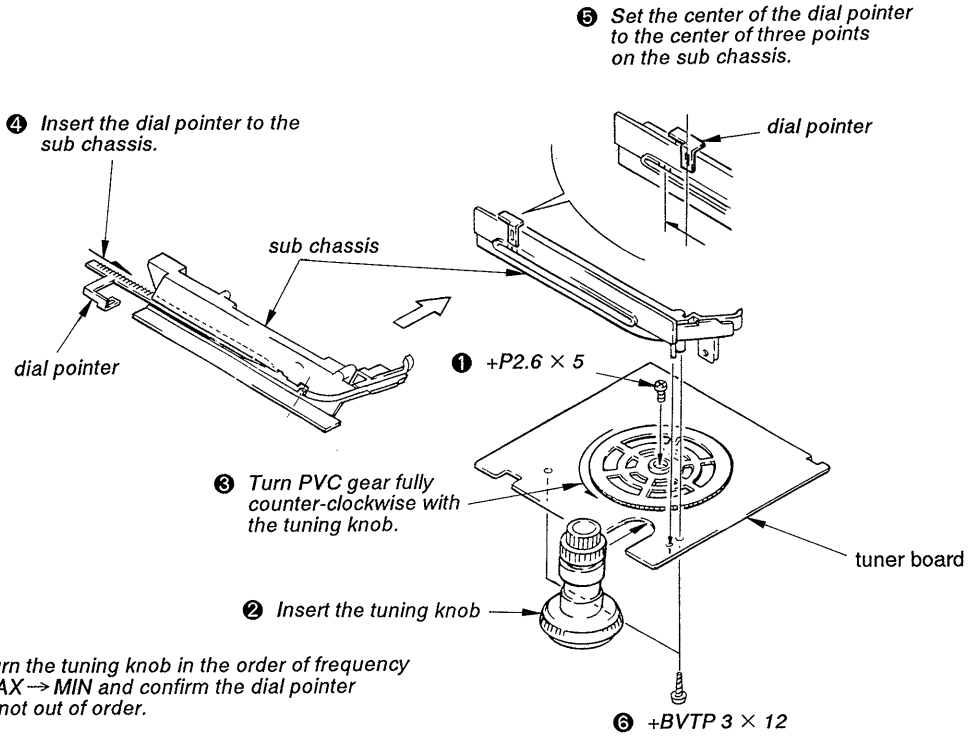
- **Parts Identification**



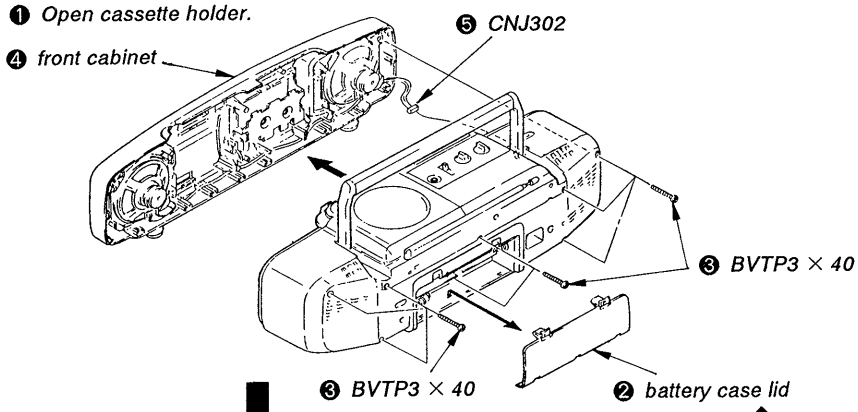
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

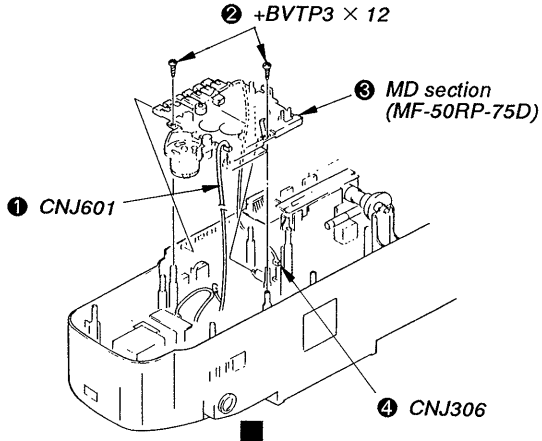
DIAL POINTER SETTING


❺ Set the center of the dial pointer to the center of three points on the sub chassis.
❹ Insert the dial pointer to the sub chassis.
dial pointer
sub chassis
dial pointer
❶ +P2.6 × 5
❸ Turn PVC gear fully counter-clockwise with the tuning knob.
tuner board
❷ Insert the tuning knob
❼ Turn the tuning knob in the order of frequency MAX → MIN and confirm the dial pointer is not out of order.
❻ +BVTP 3 × 12

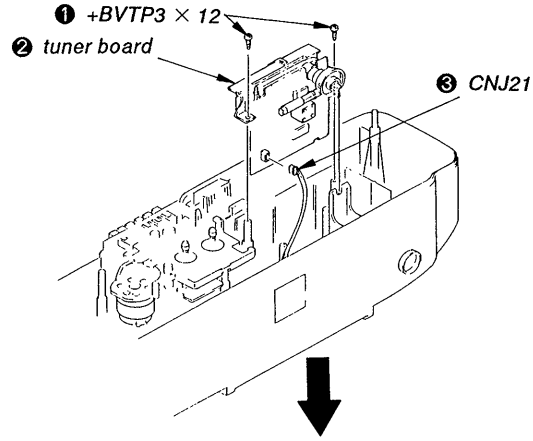
FRONT CABINET



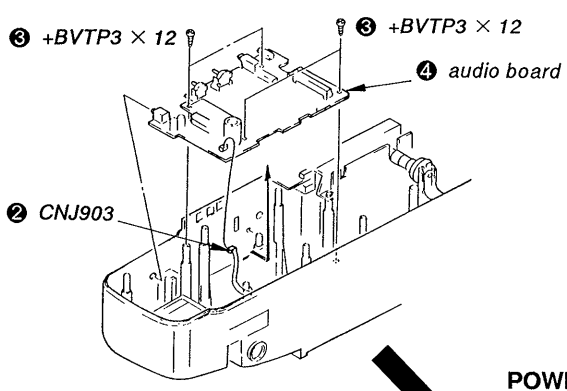
MD SECTION



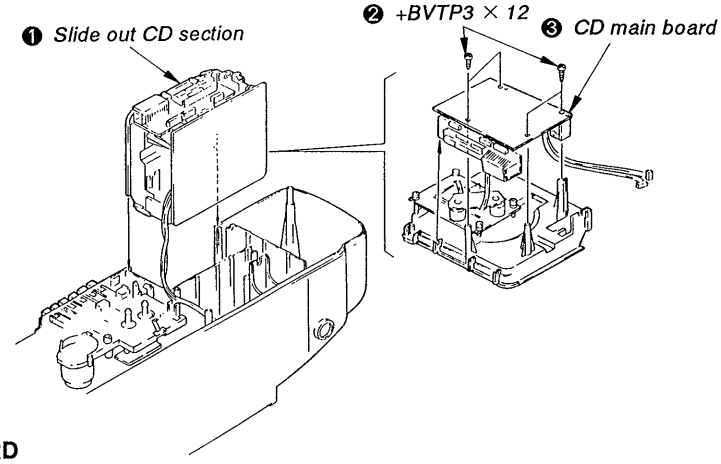
TUNER BOARD



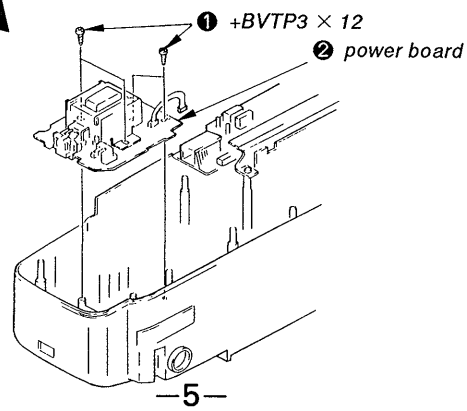
AUDIO BOARD



CD MAIN BOARD



POWER BOARD



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagentizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltge: 9V dc.

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	22.5 – 55 g•cm (0.31 – 0.76 oz•inch)	CQ-102C
Fast Forward and Rewind	60 – 120 g•cm (0.83 – 1.67 oz•inch)	CQ-201B
Back Tension	2 – 5g•cm (0.03 – 0.07 oz•inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 150 g (5.29 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Adjustments should be performed in the order given.
   Generally playback circuit adjustments should be completed before performing recording circuit adjustments.
2. Adjustments should be performed for both L-ch and R-ch.
   Switches and controls should be set as follows unless otherwise specified.

- Positions of switches and control knobs
  TONE ..... maximum

- **Standard recording position**
  Adjust the VOLUME knob so that the following regulated input/output signal levels are obtained.

- **Standard input level**

Input Pin	MIX MIC
Signal source impedance	300 Ω
Input signal level	2.5 mV(– 50 dB)
Frequency	1 kHz

- **Standard output level**

Output Pin	Speaker (L, R)	PHONES
Signal source impedance	3.2 Ω	32 Ω
Output signal level	0.775 V (0 dB)	0.245 V (– 10 dB)

0 dB=0.775 V

5-1. TAPE RECORDER SECTION

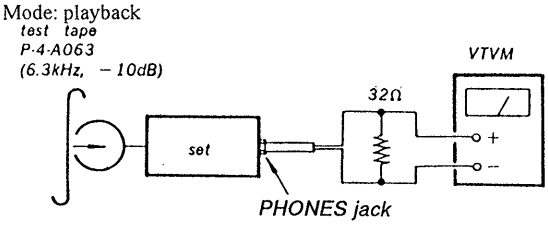
- **Test Tape**

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment
P-4-A063	6.3kHz, − 10 dB	head azimuth adjustment

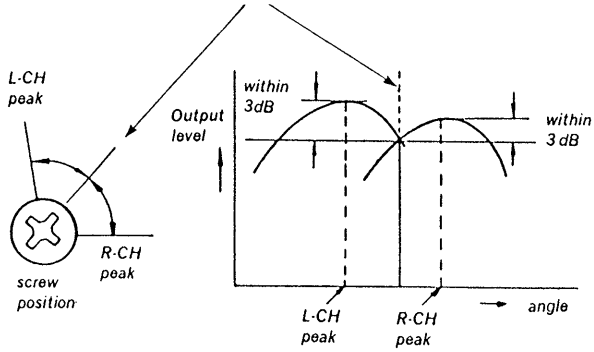
REC/PB Head Azimuth Adjustment

Procedure:

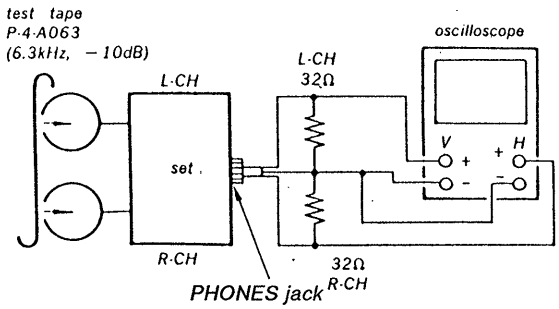
1. Mode: playback

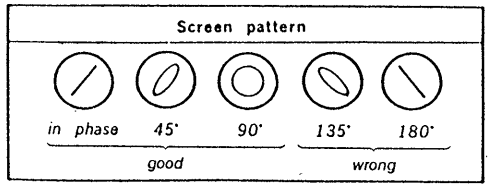


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 3 dB.

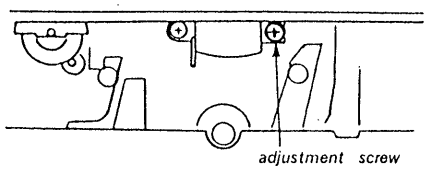


3. Phase Check
Mode: playback



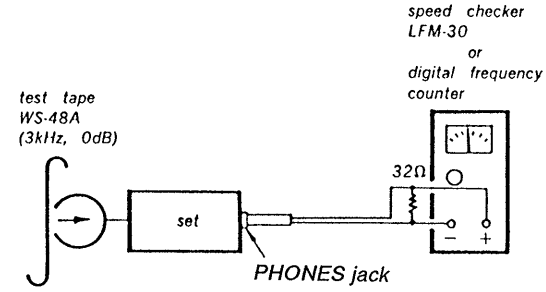


Adjustment Location:



Tape Speed Adjustment

Procedure:
Mode: playback

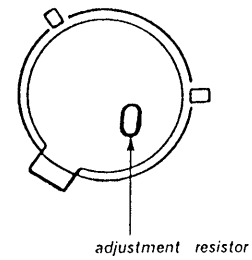


Adjustment Value:

Speed checker	Digital frequency counter
− 2.5 to +1.0%	2,925 − 3,030 Hz

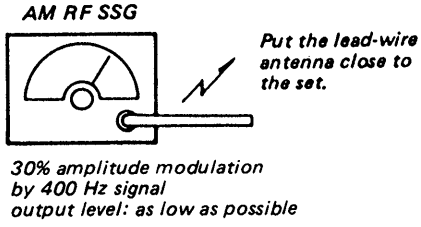
Frequency difference between the beginning and the end of the tape should be within 1% (30 Hz).

Adjustment Location:

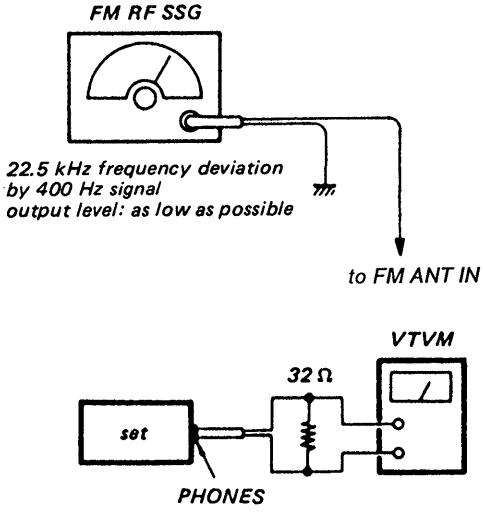


5-2. TUNER SECTION

[AM]
FUNCTION switch: AM


AM RF SSG
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal output level: as low as possible

[FM]
FUNCTION switch: FM



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	455 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	520 kHz
CT4	1,780 kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	600 kHz
CT3	1,500 kHz

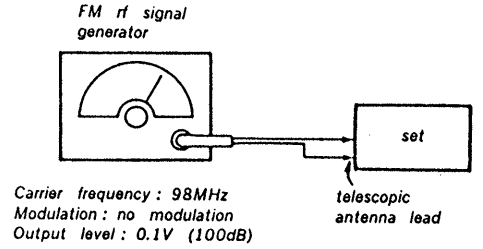
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	86.5 MHz
CT2	109.5 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	86.5 MHz
CT1	109.5 MHz

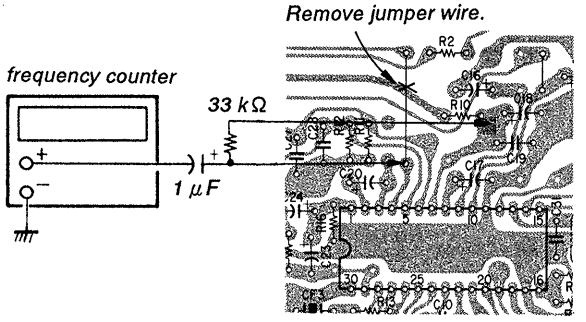
FM VCO Adjustment

A) Regular Method

Procedure:



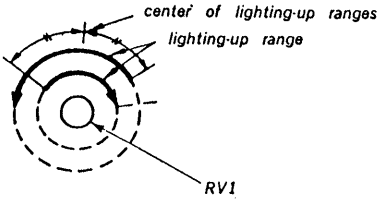
1. Remove jumper wire as shown below.
2. Connect frequency counter to the positions shown below.
3. Tune the set to 98 MHz.
4. Adjust RV1 for 76 kHz ± 500 Hz reading on the frequency counter.
5. After adjustment, connect jumper wire removed in step 1.

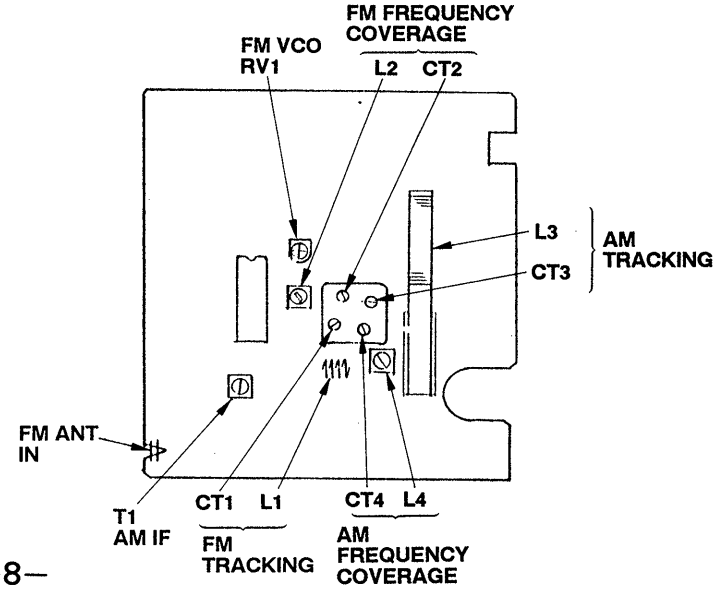


B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the lighting-up range of the FM STEREO lamp.
3. Secure RV1 at the center of the lighting-up range of both turns as shown below.





5-3. CD SECTION

Notes on Adjustment

1. Perform adjustment in service mode.
   After adjustment, be sure to release service mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.

Before Adjustment

Put the set into service mode and perform the following checks. Repair if there are any problems.

- **Sled Motor Check**

1. Press ▶ key, then press ■ key.
2. Press ▶▶| , |◀◀ keys and confirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ▶▶| : FOP moves to the outer circumference
   |◀◀ : FOP moves to the inner circumference

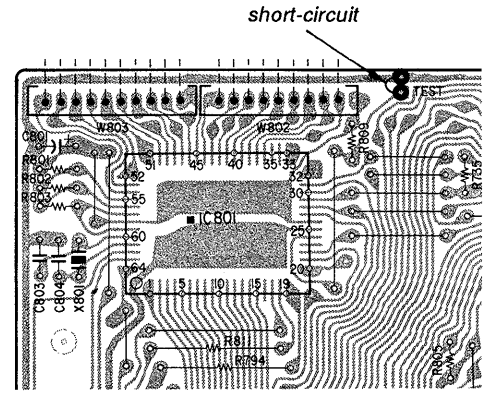
- **Focus Search Check**

1. Press ▶ key. (Focus search operation is performed continuously.)
2. Look at the FOP objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ key.
   Confirm that focus search operation stops. If it does not, press ■ key again longer.

How to Put the Set into Service Mode

1. Short-circuit following portions on the CD main board.
2. Tune the POWER on.

CD main board (conductor side)

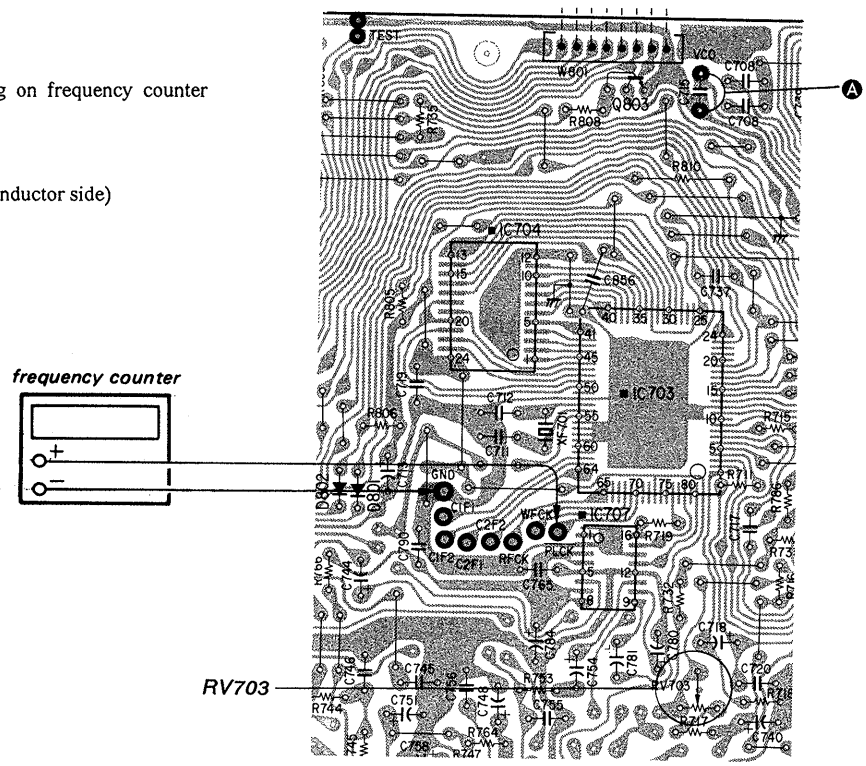


VCO Adjustment

Adjustment Procedure:

1. Short-circuit Ⓐ portion CD main board.
2. Adjust with RV703 so that the reading on frequency counter becomes 4.3218 MHz.
3. Release the short-circuit Ⓐ portion.

Adjustment Location: CD main board (conductor side)

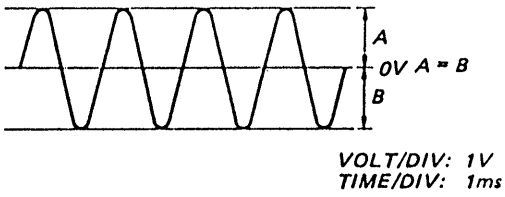


E-F Balance Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment Procedure:

1. Connect the oscilloscope between IC701 pins ① and ㉖.
2. Put the set into service mode. (See page 9)
3. Press the ▶▶| and |◀◀ keys to move the FOP to the center.
4. Insert disc (YEDS-18) and press ▶ key.
5. Adjust RV701 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release service mode after adjustment is completed.



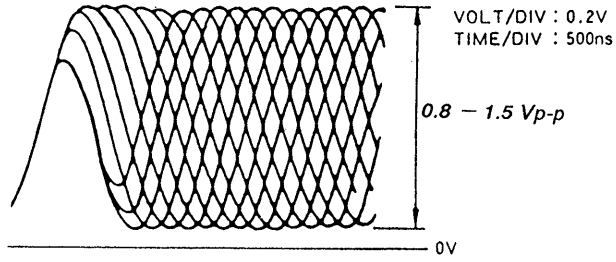
Focus Bias Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment Procedure:

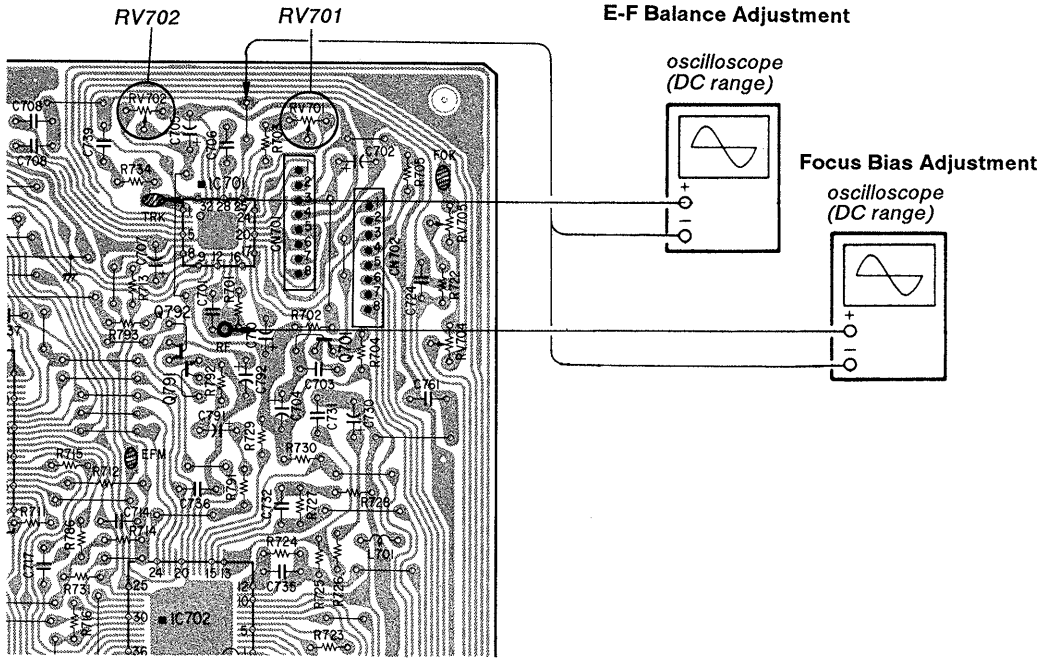
1. Connect the oscilloscope between IC701 pins ⑭ and ㉖.
2. Put the set into service mode. (See page 9)
3. Press the ▶▶| and |◀◀ keys to move the FOP to the center. (Move the FOP to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert disc (YEDS-18) and press ▶ key.
5. Adjust RV702 so that the oscilloscope waveform is as shown in the figure below(eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
6. Release service mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye patern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location: CD main board (conductor side)



Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP ➡▶ PLAY or automatic selection (⏮ ⏭buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP➡▶ PLAY or automatic selection (⏮ ⏭buttons pressed.)	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More poise during 2-axis device operation.	high	high

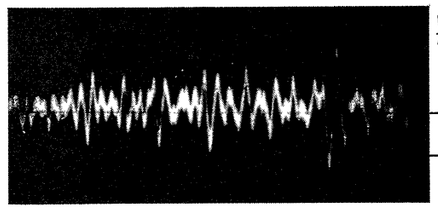
The following is a simple adjustment method.

– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

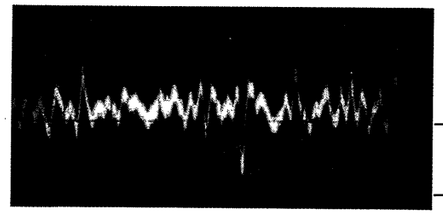
Procedure:

1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) and press ▶PLAY button.
3. Connect the oscilloscope between IC701 pins (32) and (26).
4. Adjustment RV705 so that the waveform is as shown in the figure below. (focus gain adjustment)

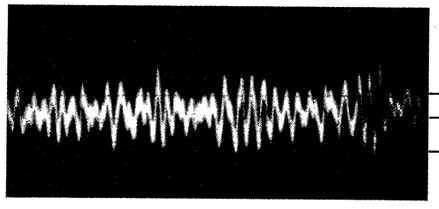


- Incorrent Examples (DC level changes more than on adjusted waveform)

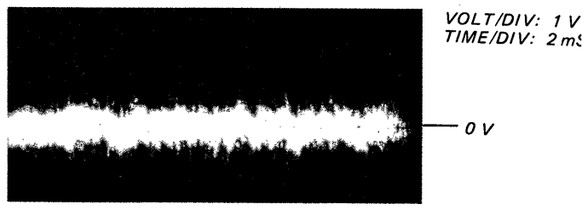
low focus gain



high focus gain

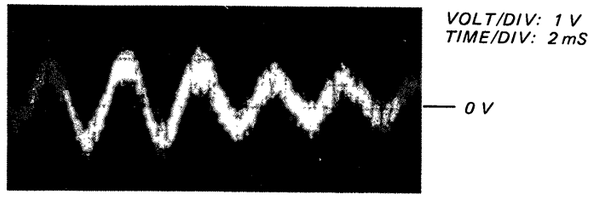


5. Connect the oscilloscope between IC701 pins (1) and (26).
6. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)

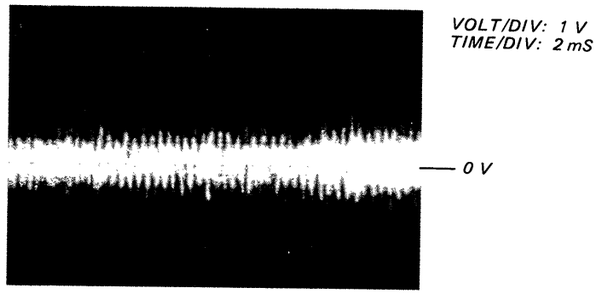


- Incorrect Examples (fundamental wave appears)

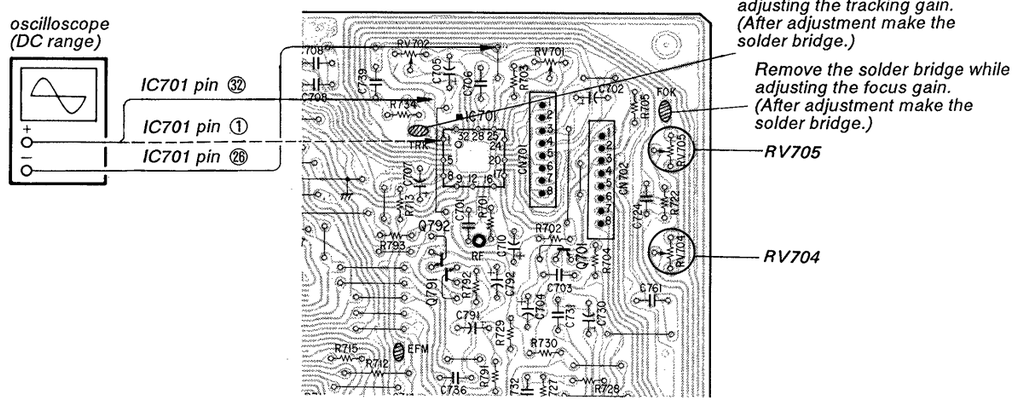
low tracking gain



high tracking gain
(higher fundamental wave than for low gain)

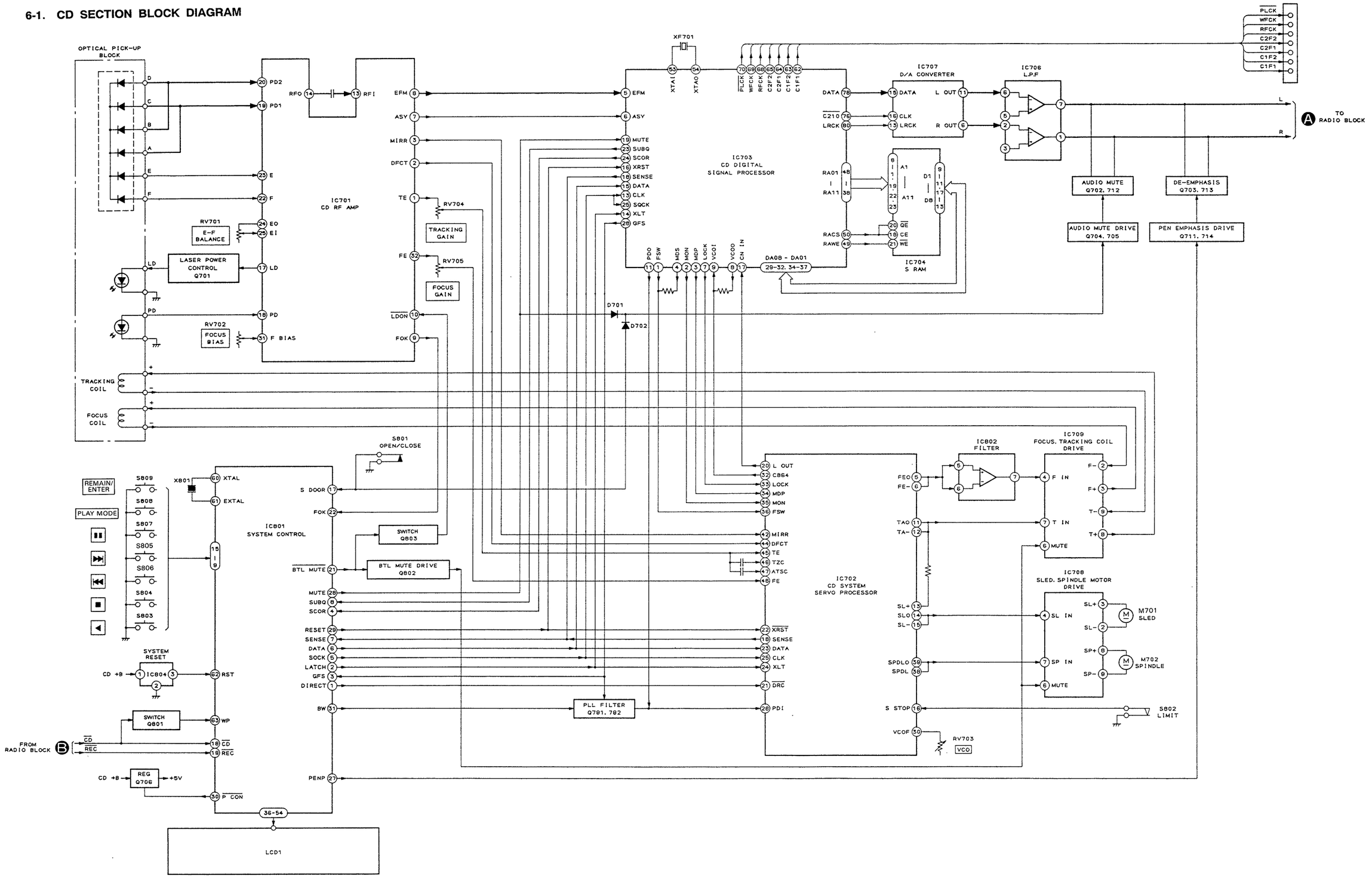


Adjustment Location: CD main board (conductor side)

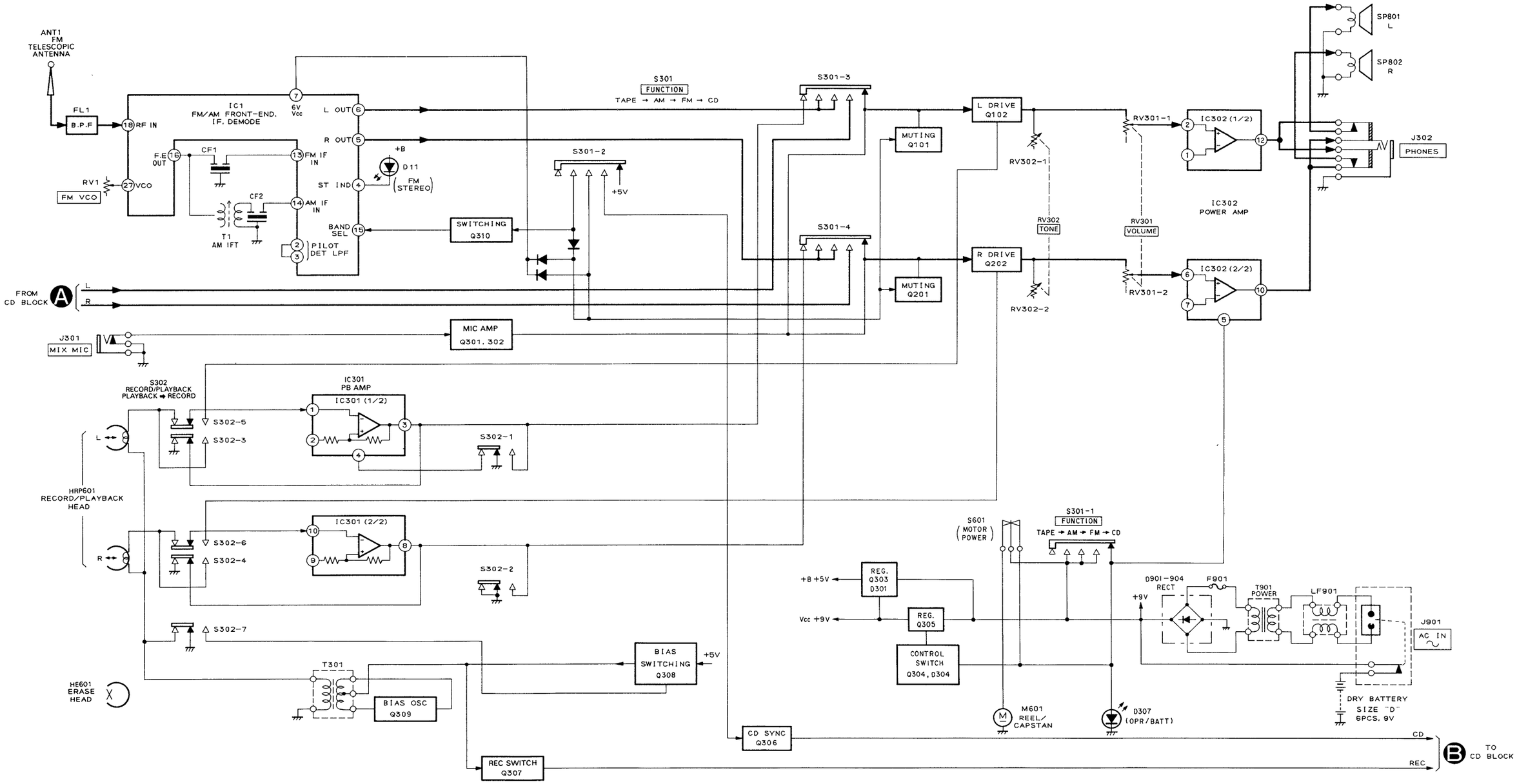

oscilloscope
(DC range)
IC701 pin 32
IC701 pin 1
IC701 pin 26
Remove the solder bridge while adjusting the tracking gain. (After adjustment make the solder bridge.)
Remove the solder bridge while adjusting the focus gain. (After adjustment make the solder bridge.)
RV705
RV704

SECTION 6
DIAGRAMS

6-1. CD SECTION BLOCK DIAGRAM



6-2. TUNER, AUDIO SECTION BLOCK DIAGRAM



6-3. PRINTED WIRING BOARDS

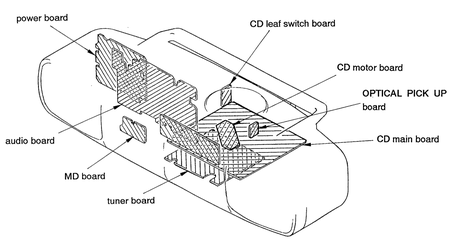
Note on Printed Wiring Boards:

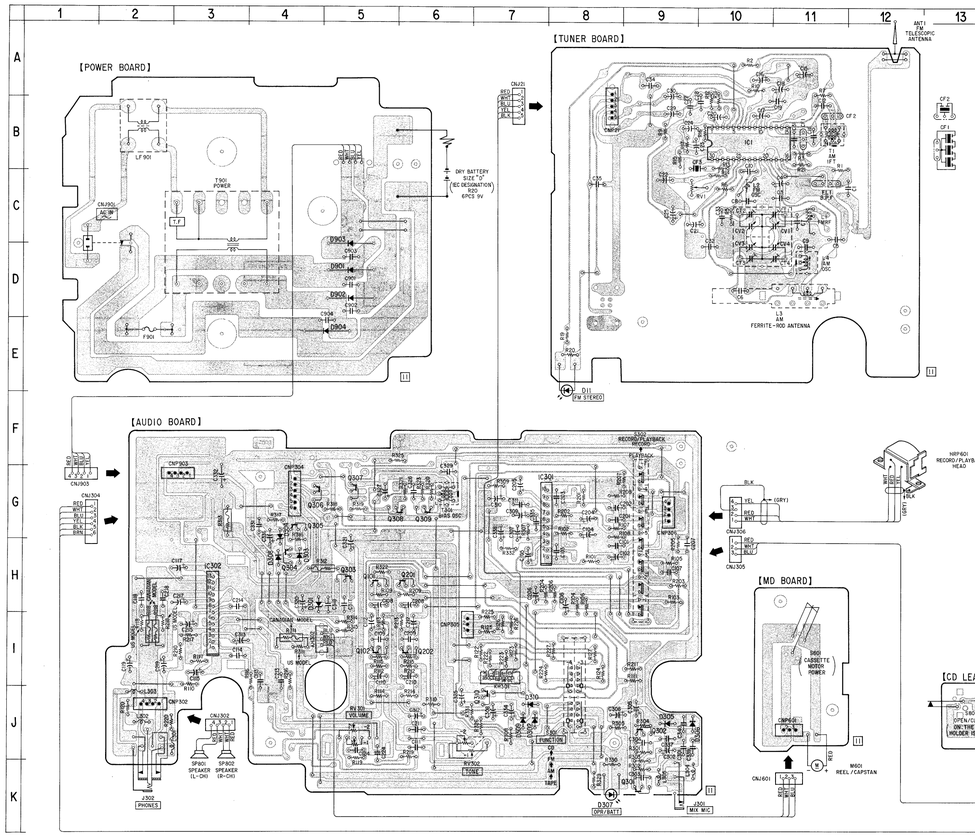
• o—— : parts extracted from the component side.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D11	E-8	Q101	H-5
D301	H-4	Q102	I-5
D302	J-7	Q201	H-6
D303	H-4	Q202	I-6
D304	G-4	Q301	K-9
D305	J-9	Q302	J-9
D306	J-9	Q303	H-5
D307	K-8	Q304	H-4
D308	H-4	Q305	G-4
D309	J-7	Q306	G-4
D310	J-7	Q307	G-5
D701	G-16	Q308	G-5
D702	G-16	Q309	G-6
D801	G-17	Q310	J-7
D802	G-17	Q701	F-20
D804	I-21	Q702	J-18
D805	I-20	Q703	I-18
D901	D-5	Q704	G-16
D902	D-5	Q705	J-18
D903	D-5	Q706	J-18
D904	E-5	Q711	H-16
		Q712	J-17
IC1	B-10	Q713	I-17
IC301	G-7	Q714	I-18
IC302	H-3	Q791	F-20
IC701	E-20	Q792	F-20
IC702	G-20	Q801	G-15
IC703	F-18	Q802	G-16
IC704	F-18	Q803	E-18
IC706	I-17		
IC707	G-18		
IC708	J-20		
IC709	I-19		
IC801	E-16		
IC802	J-21		
IC804	G-15		

• Circuit Boards Location





• Semiconductor Lead Layouts

BA3312N

CXP5024-092Q

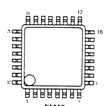
2SB1013-4
2SC1815GR

BA6293

LA4597

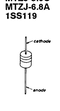
2SD1944-K

CXA1081Q



PST529D

MTZJ-5.6C
MTZJ-6.8A
1SS119



RC4558P

U15G

CXA1182Q-Z

μPD6376

GL-3PR9

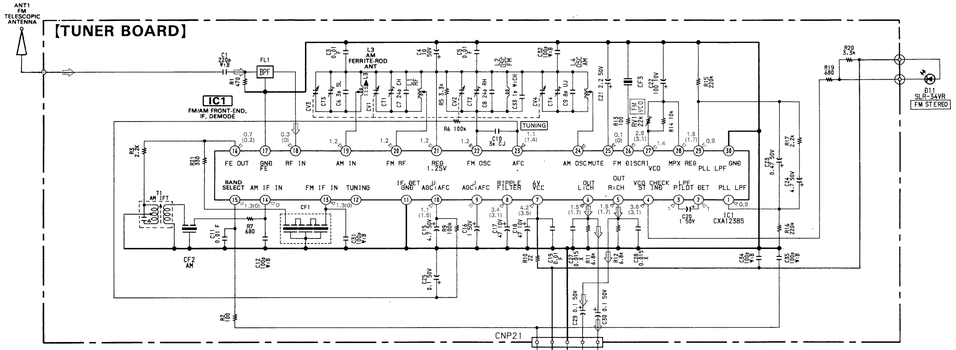
CXA1238S

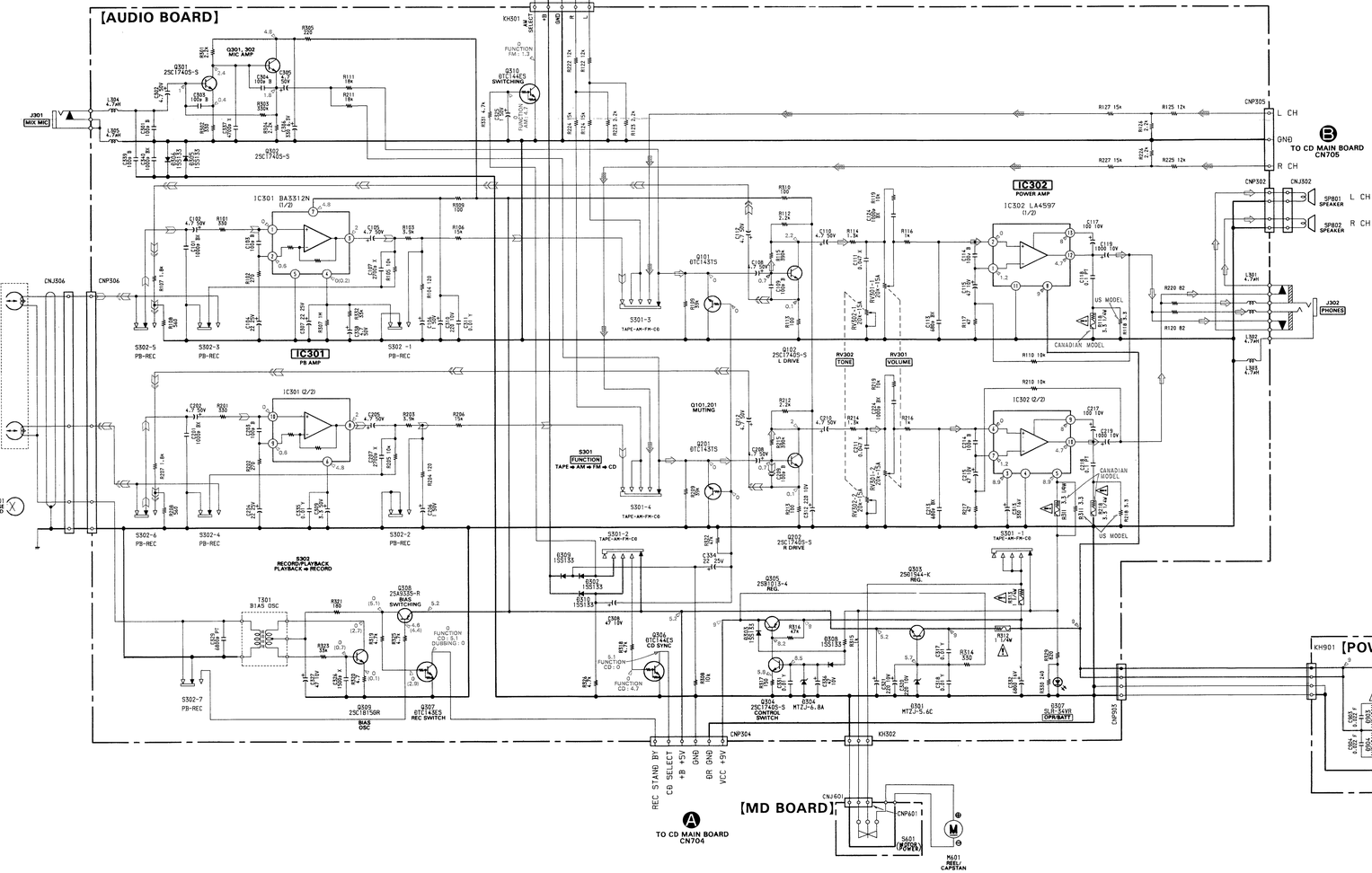
DTA124ES
DTC124ES
DTC143ES
DTC143TS
DTC144ES
2SC1740S-QR

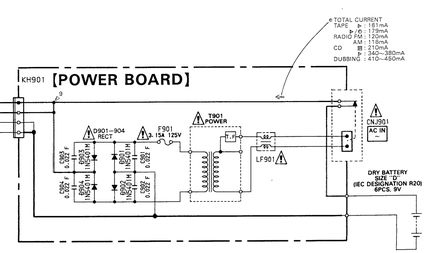
CXD1130Q

2SA1175HFE
2SC2785HFE

CXK5816M-12L

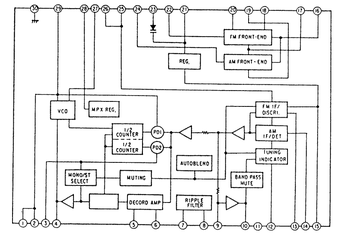






• IC Block Diagram

IC1 CXA1238S

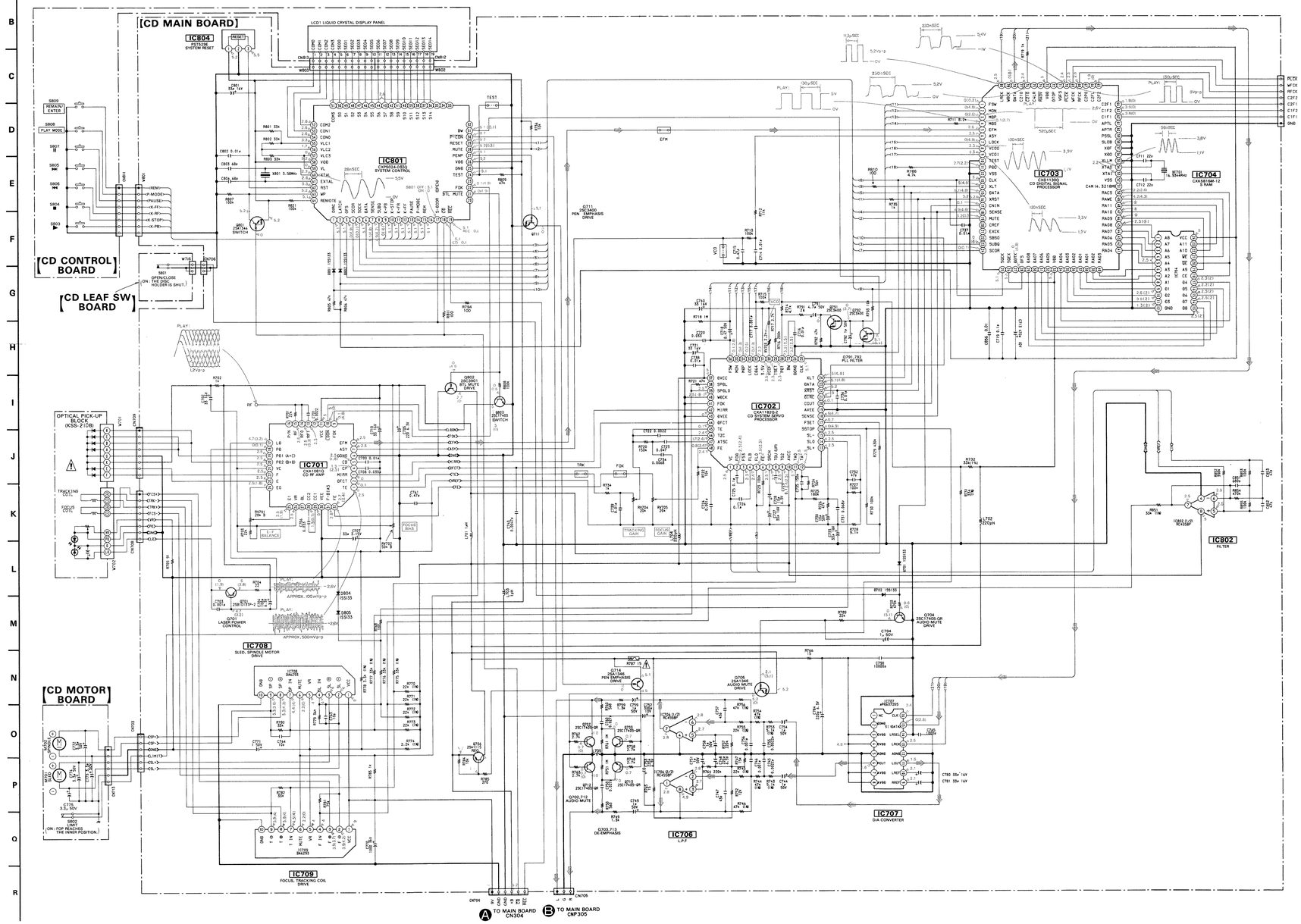


Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- : fusible resistor.
- ☆ : adjustment for repair.
- ⊙ Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  Radio section
  no mark: FM
  ( ): AM
  Tape section
  no mark: PLAY
  ( ): REC
  CD section
  no mark: STOP
  ( ): PLAY
- ⊙ Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.
- ⊙ Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- ⊙ Signal path.
  ⇨ : FM ⇨ : PB
  ⇛ : REC
  ⇛ : CD

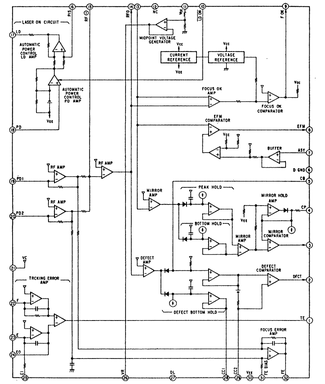
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

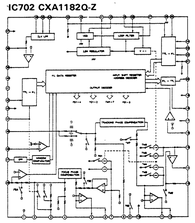


• IC Block Diagrams

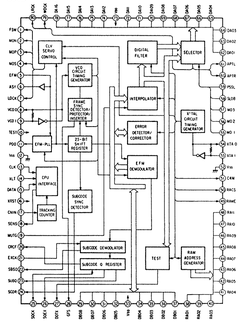
IC701 CXA1081Q



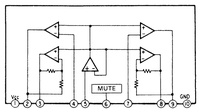
IC702 CXA1182Q-Z



IC703 CXD1130Q



IC708, 709 BA6293



SECTION 7
EXPLODED VIEWS

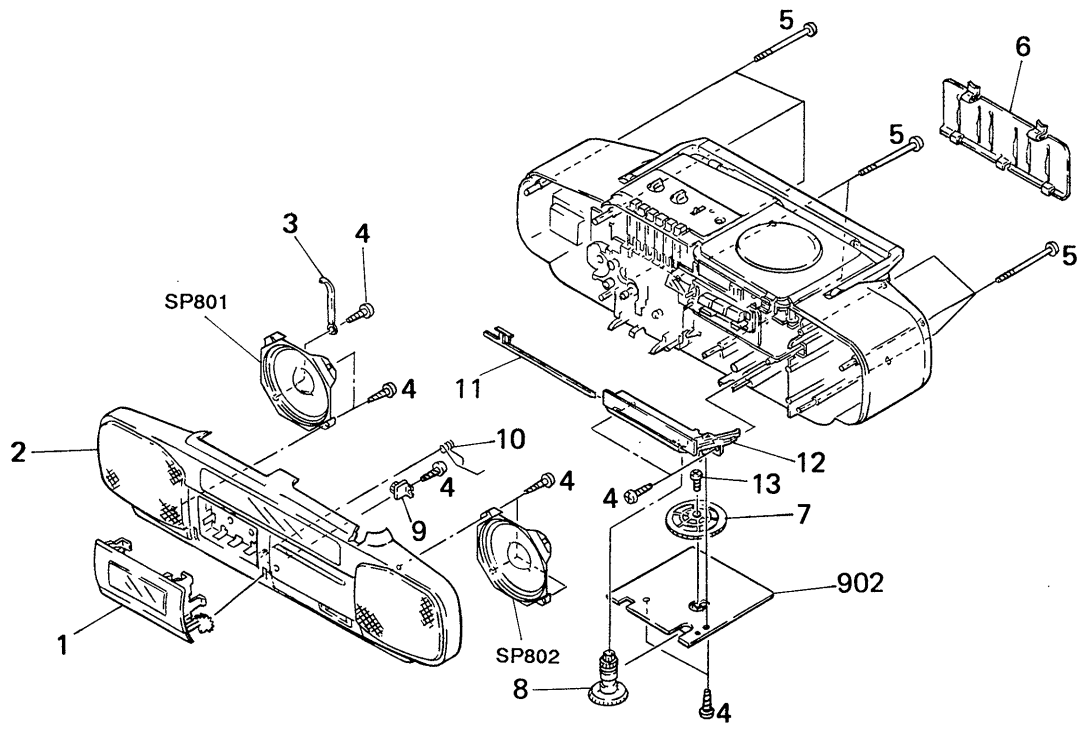
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

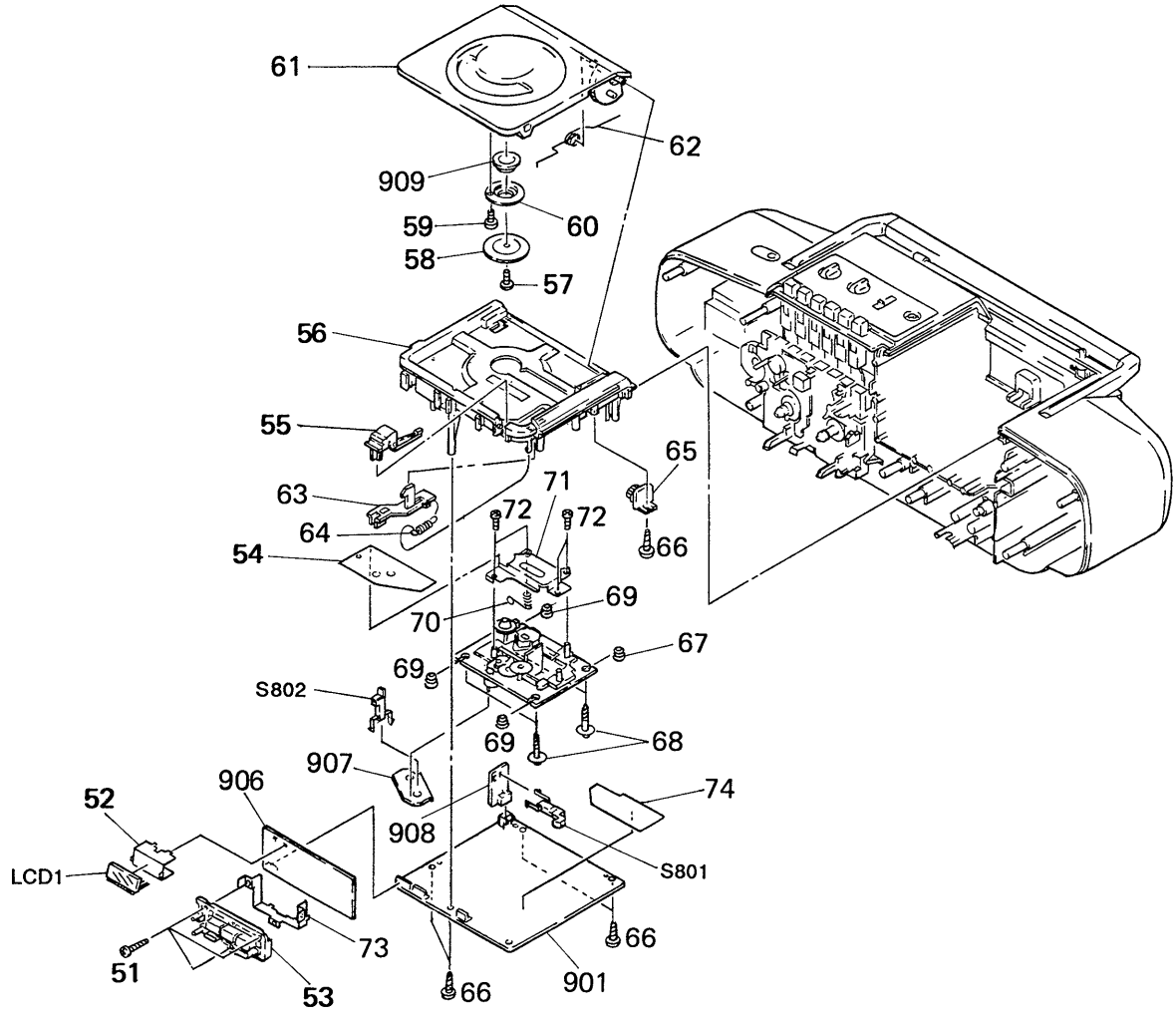
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

(1) FRONT PANEL AND TUNER BOARD SECTION



No.	Part No.	Description	Remarks
1	X-4936-001-1	CASSETTE HOLDER ASSY	
2	X-4936-002-1	FRONT CABINET ASSY	
3	*3-703-150-11	STOPPER, WIRING	
4	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
5	7-685-155-19	SCREW +BTP 3X40 TYPE2 N-S	
6	3-343-064-31	LID, BATTERY CASE	
7	4-936-010-01	GEAR (PVC)	
8	4-936-012-01	KNOB (TUNING)	
9	3-351-377-11	DAMPER	
10	3-343-067-01	SPRING (CASSETTE)	
11	4-936-011-01	POINTER	
12	*4-936-009-01	CHASSIS, SUB	
13	7-621-770-87	SCREW +P 2.6X5	
902	*A-3266-596-A	MOUNTED PCB, TUNER	
SP801	1-544-154-11	SPEAKER	
SP802	1-544-154-11	SPEAKER	

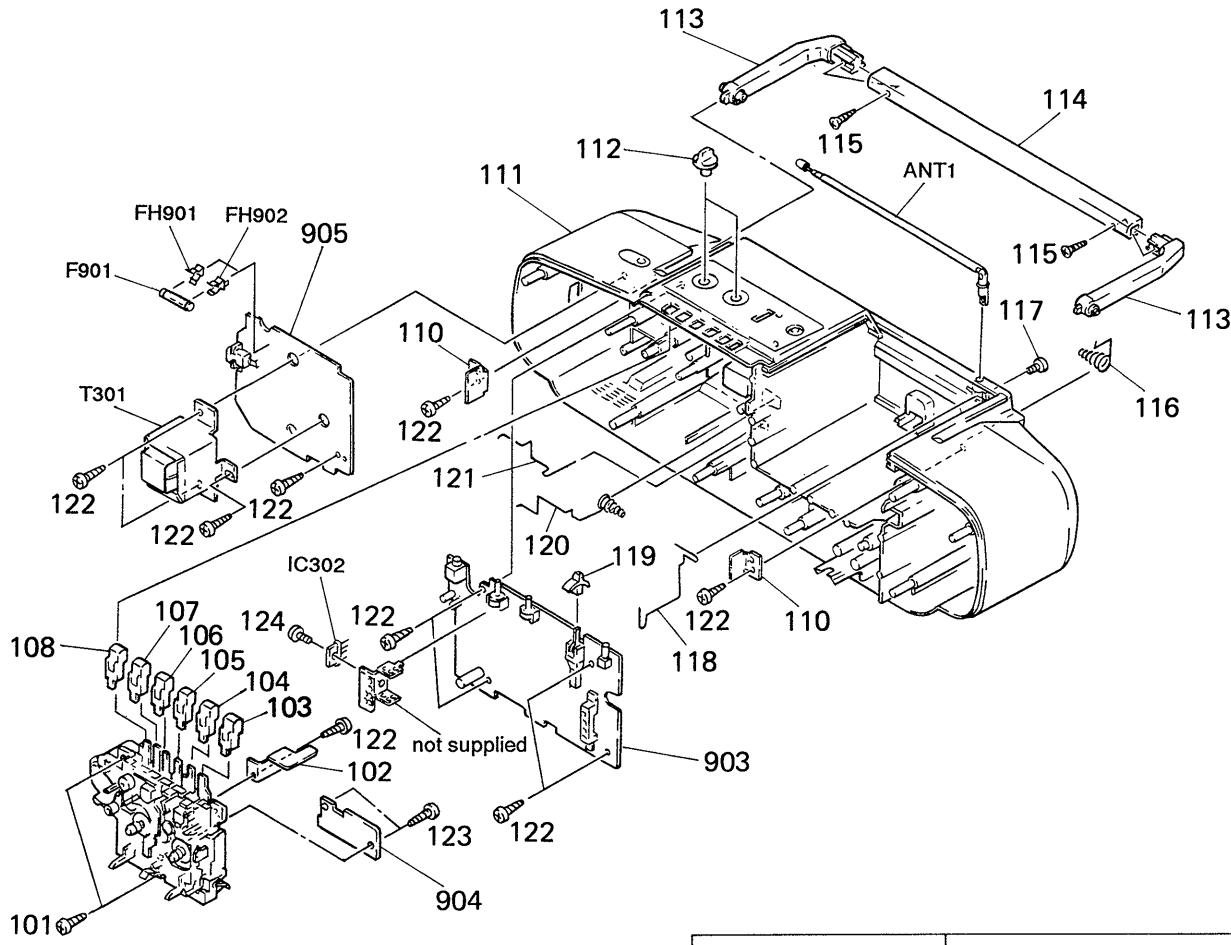
(2) CD SECTION



No.	Part No.	Description	Remarks
51	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
52	*4-936-022-01	BRACKET (LCD)	
53	4-936-029-01	BUTTON (CD)	
54	*4-931-787-01	COVER, DUST	
55	4-936-019-01	BUTTON (EJECT)	
56	4-936-033-01	CABINET (CD)	
57	7-621-772-10	SCREW +B 2X4	
58	3-704-435-01	PLATE (M), CHUCK	
59	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT	
60	4-936-007-01	COVER	
61	X-4936-003-1	CD HOLDER ASSY	
62	4-936-028-01	SPRING (CD)	
63	4-936-020-01	SLIDER	
64	4-936-038-01	SPRING (EJECT)	
65	3-351-377-11	DAMPER	

No.	Part No.	Description	Remarks
66	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
67	4-922-858-01	DAMPER (BROWN)	
68	4-931-373-01	SCREW, CD FITTING	
69	4-922-858-11	DAMPER (BLUE)	
70	4-931-358-01	SPRING	
71	*4-928-936-01	COVER, CD	
72	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
73	*4-936-039-01	BRACKET (BUTTON)	
74	*4-930-246-11	PAPER (N), SHIELD	
901	*A-3216-974-A	PC BOARD ASSY, MAIN, CD	
906	*1-632-756-11	PC BOARD, CD CONTROL	
907	*1-632-757-11	PC BOARD, CD MOTOR	
908	*1-632-758-11	PC BOARD, CD LEAF SW	
909	1-452-531-11	MAGNET	
LCD1	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL	
S801	1-570-822-11	SWITCH, LEAF (OPEN/CLOSE)	
S802	1-571-936-11	SWITCH, LEAF (LIMIT)	

(3) REAR CABINET SECTION

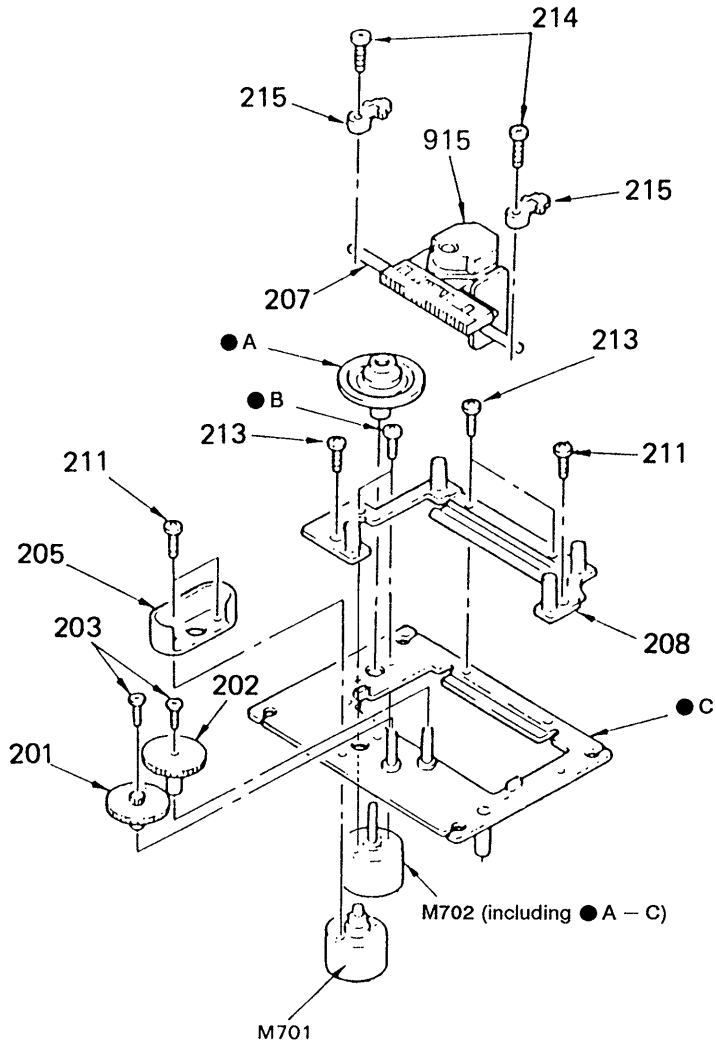


Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remarks
101	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
102	*4-936-021-01	LEVER, REC	
103	4-936-018-01	BUTTON (STOP)	
104	4-936-017-01	BUTTON (REC)	
105	4-936-016-01	BUTTON (PLAY)	
106	4-936-015-01	BUTTON (REW)	
107	4-936-014-01	BUTTON (FF)	
108	4-936-013-01	BUTTON (PAUSE)	
110	*4-937-032-01	BRACKET	
111	4-936-032-01	(US).....CABINET (REAR)	
	4-936-032-01	(Canadian)...CABINET (REAR)	
112	3-351-338-31	KNOB (VOL)	
113	4-936-008-01	PLATE, SIDE, HANDLE	
114	4-936-030-01	HANDLE	
115	7-621-853-30	SCREW +KTP 3X12 TYPE4	
116	3-343-070-01	SPRING (+,-)	

No.	Part No.	Description	Remarks
117	7-682-549-09	SCREW +B 3X10	
118	4-936-025-01	TERMINAL, ANT	
119	3-343-062-31	KNOB (FUNCTION)	
120	4-936-024-01	SPRING (-)	
121	4-936-023-01	TERMINAL (+), BATTERY	
122	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
123	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
124	7-685-870-01	SCREW +BVTT 3X5 (S)	
903	*A-3270-709-A	(US).....MOUNTED PCB, AUDIO	
	*A-3270-733-A	(Canadian)...MOUNTED PCB, AUDIO	
904	*1-632-749-11	PC BOARD, MD	
905	*1-632-750-11	PC BOARD, POWER	
ANT1	1-501-467-11	ANTENNA, TELESCOPIC	
F901	⚠1-532-745-11	FUSE, GLASS TUBE	
IC302	8-759-820-22	IC LA4597	
T901	⚠1-449-897-11	TRANSFORMER, POWER	
FH901	1-533-217-31	HOLDER, FUSE	
FH902	1-533-217-31	HOLDER, FUSE	

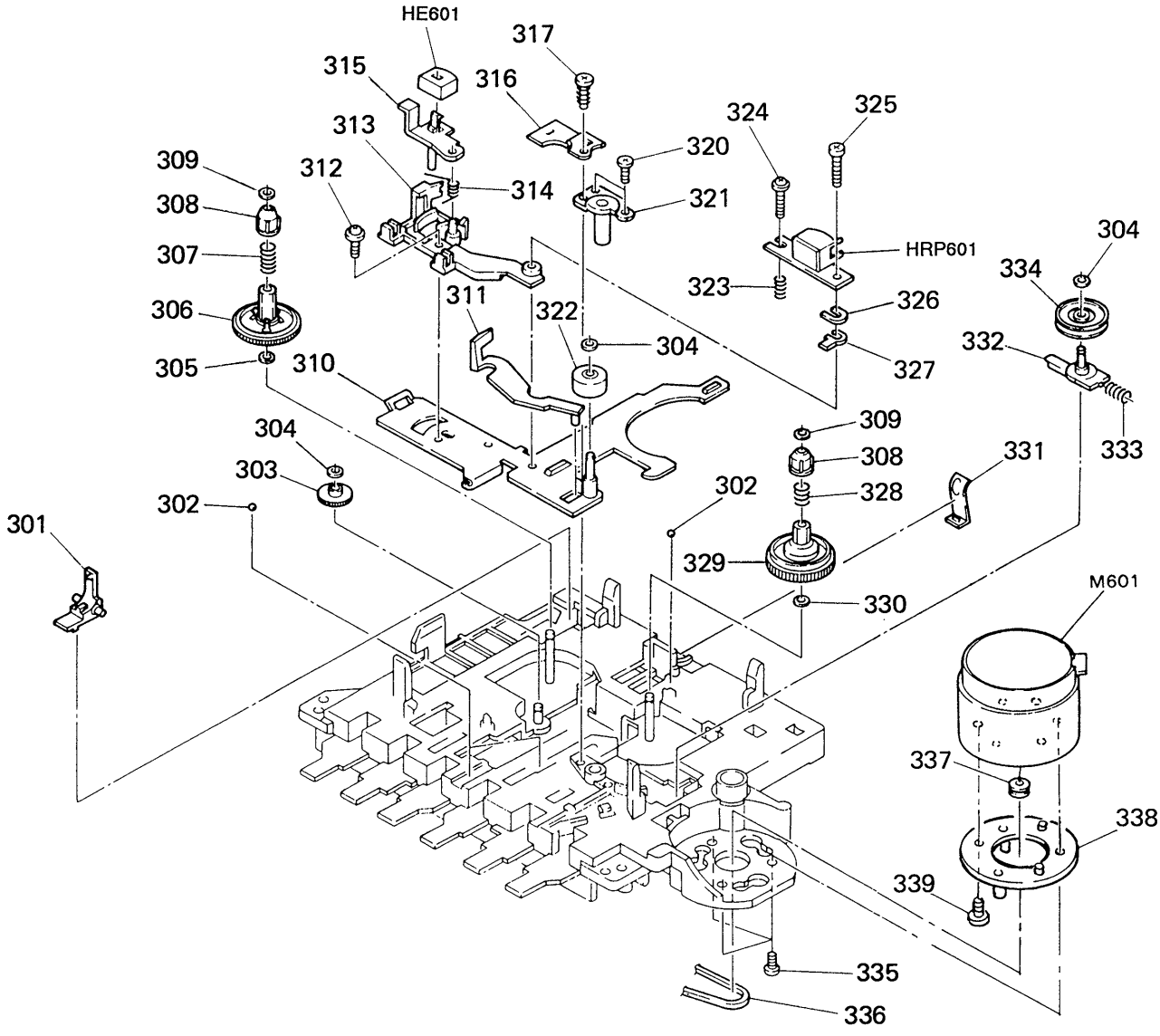
(4) OPTICAL PICK-UP BLOCK (KSM-210BAN)



No.	Part No.	Description	Remarks
201	2-641-403-05	GEAR (B)	
202	2-641-404-02	GEAR (A)	
203	3-303-809-31	SCREW (M1.7X3.0), SPECIAL HEAD	
205	*2-641-434-01	COVER, GEAR	
207	*4-910-431-01	SHAFT, SLIDE	
208	2-641-444-01	HOLDER (J), CHASSIS	
211	7-621-255-25	SCREW +P 2X4	
213	7-621-255-45	SCREW +PTT 2X6 (S)	
214	2-641-447-01	SCREW (2.6X8), + STP	
215	2-641-448-02	CLAMP, SHAFT	
915	⚠.8-848-137-11	DEVICE, OPTICAL KSS-210B	
M701	X-2641-357-1	MOTOR ASSY, SLED	
M702	X-2641-341-1	MOTOR ASSY, SPINDLE (WITH CHASSIS,TURNTABLE)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

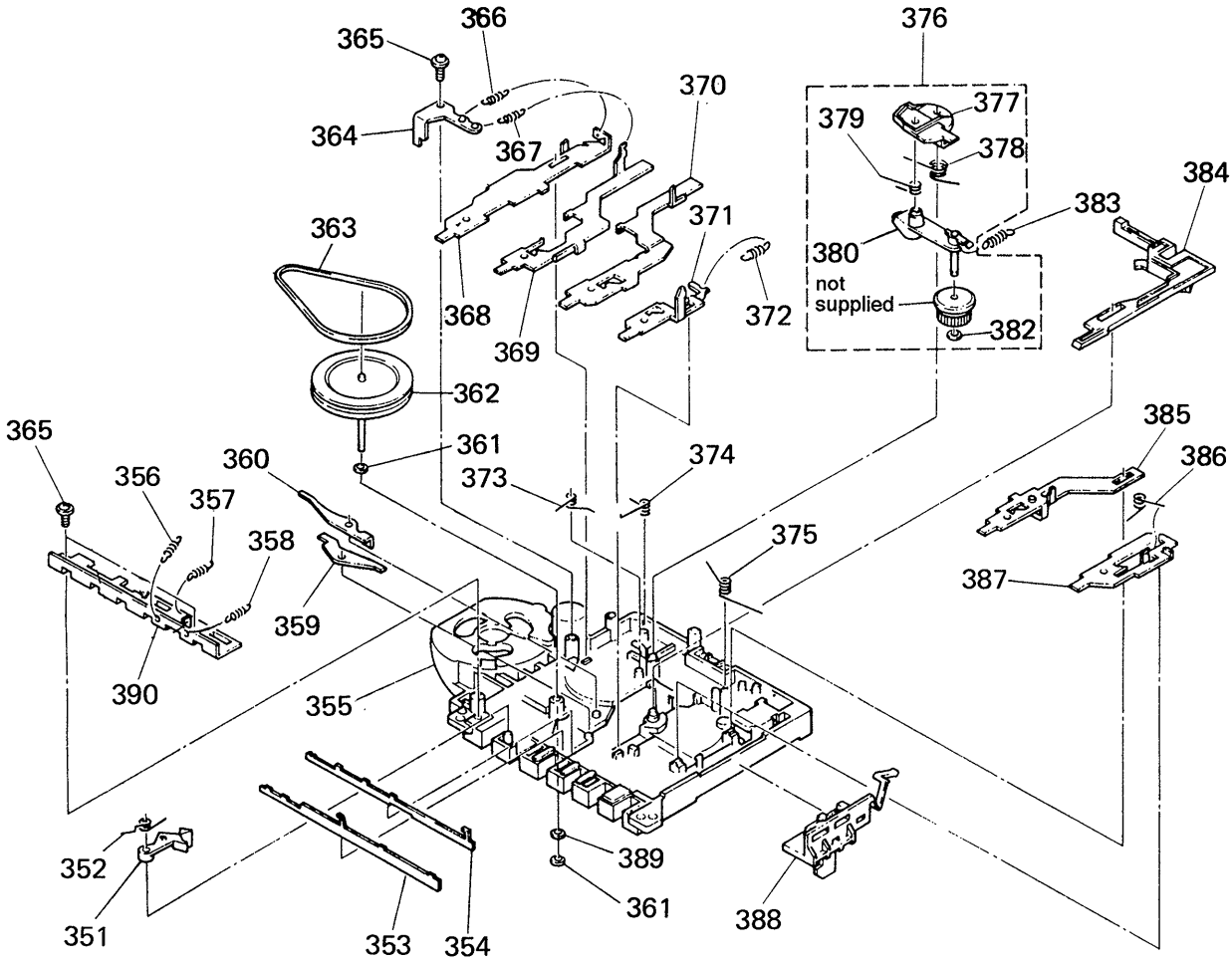
(5) TAPE TRANSPORT MECHANISM-1 (MF-50RP-75D)



No.	Part No.	Description	Remarks
301	3-313-357-00	CLAW, REC PREVENTION	
302	7-671-112-11	BALL, STEEL	
303	3-558-620-11	GEAR, REWIND	
304	3-307-948-01	WASHER, NYLON	
305	3-322-659-01	WASHER (A)	
306	3-313-305-00	TABLE, REEL, SUPPLY	
307	3-313-344-00	SPRING, COMPRESSION	
308	3-313-333-00	CLAW, REEL	
309	3-558-708-01	WASHER, STOPPER	
310	X-3313-311-1	CHASSIS ASSY	
311	3-313-316-00	LEVER, SHUT-OFF DETECTION	
312	7-621-255-35	SCREW (2MMX5), + PWH	
313	3-334-717-01	BRACKET (M), HEAD	
314	3-313-339-00	SPRING	
315	*3-324-221-01	ARM (DC), ERASE HD	
316	*3-332-309-01	SPRING (B)	
317	7-685-134-19	SCREW (B2.6), TAPPING	
318	3-307-948-41	WASHER, NYLON	
319	3-701-438-11	WASHER, 2.5	
320	3-318-203-71	SCREW (B1.7X5), TAPPING	
321	X-3319-945-1	BEARING ASSY, CAPSTAN	
322	3-703-597-41	PINCH ROLLER, STANDARD	
323	3-313-340-00	SPRING, COMPRESSION	
324	7-621-255-55	SCREW, LOCK	
325	7-621-772-40	SCREW +B 2X8	

No.	Part No.	Description	Remarks
326	3-578-138-01	SHIM (t=0.1)	
	3-578-138-11	SHIM (t=0.2)	
	3-578-138-21	SHIM (t=0.3)	
327	3-331-108-01	LUG (T), SHIM (t=0.1)	
	3-331-108-11	LUG (T), SHIM (t=0.2)	
	3-331-108-21	LUG (T), SHIM (t=0.3)	
	3-331-108-31	LUG (T), SHIM (t=0.4)	
	3-331-108-41	LUG (T), SHIM (t=0.5)	
328	3-313-345-00	SPRING, COMPRESSION	
329	A-3130-031-A	TABLE ASSY, REEL, TAKE-UP	
330	3-701-437-21	WASHER	
331	3-313-902-11	SPRING	
332	X-3313-301-0	BRACKET ASSY, T PULLEY	
333	3-573-464-00	SPRING, COMPRESSION	
334	X-3313-307-0	PULLEY ASSY, FWD	
335	7-621-775-60	SCREW, PAN	
336	3-313-335-00	BELT, CAPSTAN	
337	X-3313-308-1	PULLEY (C), MOTOR	
338	3-330-679-01	BRACKET (M), MOTOR	
339	7-621-773-86	SCREW +P 2.6X4	
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-543-319-11	HEAD, MAGNETIC (REC/PB)	
M601	1-541-625-11	MOTOR, DC	

(6) TAPE TRANSPORT MECHANISM-2 (MF-50RP-75D)



No.	Part No.	Description	Remarks
351	3-313-322-02	LEVER (A), S.OFF	
352	3-313-323-00	SPRING	
353	*3-313-351-16	PLATE (A), LOCK	
354	*3-313-352-11	PLATE (B), LOCK	
355	A-3102-092-A	CHASSIS ASSY, MECHANICAL	
356	3-313-369-00	SPRING, TENSION	
357	3-313-343-00	SPRING, TENSION	
358	3-322-691-01	SPRING, TENSION	
359	*3-313-321-00	LEVER, PREVENTION, RFR	
360	*3-313-320-00	LEVER, RCP	
361	3-701-438-11	WASHER, 2.5	
362	X-3313-315-1	FLYWHEEL (G) ASSY	
363	3-313-335-00	BELT, CAPSTAN	
364	3-356-111-01	HOOK, SPRING	
365	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
366	3-313-349-00	SPRING, TENSION	
367	3-313-348-00	SPRING, TENSION	
368	*3-313-381-01	LEVER (B), PAUSE BUTTON	
369	*3-313-353-00	LEVER, FF BUTTON	
370	*3-313-354-00	LEVER, REW BUTTON	

No.	Part No.	Description	Remarks
371	*3-313-326-00	LEVER, FWD BUTTON	
372	3-324-222-01	SPRING (HIGH TENSION), TENSION	
373	3-313-338-00	SPRING	
374	3-313-378-01	SPRING (A)	
375	3-313-327-00	SPRING	
376	A-3136-041-B	IDLER COMPLETE ASSY, FR	377-380, 382
377	3-313-314-00	LEVER (SI), FR	
378	3-313-315-00	SPRING	
379	3-313-313-00	SPRING	
380	X-3313-304-0	ARM ASSY, REW	
382	3-558-708-01	WASHER, STOPPER	
383	3-313-365-00	SPRING, TENSION	
384	3-313-356-00	BRAKE	
385	*3-313-350-00	LEVER, REC BUTTON	
386	3-313-331-00	SPRING	
387	*3-313-325-00	LEVER, STOP BUTTON	
388	3-313-380-01	CLAW (A), EJECT	
389	3-701-438-01	WASHER	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
901	*A-3216-974-A	PC BOARD ASSY, MAIN, CD			
902	*A-3266-596-A	MOUNTED PCB, TUNER			
903	*A-3270-709-A	(US).....MOUNTED PCB, AUDIO			
	*A-3270-733-A	(Canadian)...MOUNTED PCB, AUDIO			
904	*1-632-749-11	PC BOARD, MD			
905	*1-632-750-11	PC BOARD, POWER			
906	*1-632-756-11	PC BOARD, CD CONTROL			
907	*1-632-757-11	PC BOARD, CD MOTOR			
908	*1-632-758-11	PC BOARD, CD LEAF SW			
909	1-452-531-11	MAGNET			
915	⚠.8-848-137-11	DEVICE, OPTICAL KSS-210B			
ANT1	1-501-467-11	ANTENNA, TELESCOPIC			
C1	1-162-286-31	CERAMIC	220PF	10%	50V
C3	1-164-096-11	CERAMIC	0.01MF		50V
C4	1-123-875-11	ELECT	10MF	20%	50V
C5	1-164-096-11	CERAMIC	0.01MF		50V
C6	1-164-039-11	CERAMIC	3PF	0.25PF	50V
C7	1-164-028-11	CERAMIC	24PF	5%	50V
C8	1-102-960-00	CERAMIC	24PF	5%	50V
C9	1-102-945-00	CERAMIC	8PF	0.5PF	50V
C10	1-164-012-11	CERAMIC	3PF	0.25PF	50V
C11	1-164-096-11	CERAMIC	0.01MF		50V
C12	1-162-282-31	CERAMIC	100PF	10%	50V
C15	1-124-927-11	ELECT	4.7MF	20%	50V
C16	1-124-791-11	ELECT	1MF	20%	50V
C17	1-124-446-11	ELECT	47MF	20%	10V
C18	1-124-446-11	ELECT	47MF	20%	10V
C19	1-164-096-11	CERAMIC	0.01MF		50V
C20	1-124-791-11	ELECT	1MF	20%	50V
C21	1-124-925-11	ELECT	2.2MF	20%	50V
C22	1-124-443-00	ELECT	100MF	20%	10V
C23	1-124-902-00	ELECT	0.47MF	20%	50V
C24	1-124-927-11	ELECT	4.7MF	20%	50V
C25	1-124-463-00	ELECT	0.1MF	20%	50V
C27	1-161-053-00	CERAMIC	0.015MF	10%	16V
C28	1-161-053-00	CERAMIC	0.015MF	10%	16V
C29	1-124-463-00	ELECT	0.1MF	20%	50V
C30	1-124-463-00	ELECT	0.1MF	20%	50V
C31	1-162-282-31	CERAMIC	100PF	10%	50V
C32	1-162-282-31	CERAMIC	100PF	10%	50V
C33	1-162-187-31	CERAMIC	1PF	20%	50V
C34	1-162-282-31	CERAMIC	100PF	10%	50V
C35	1-162-282-31	CERAMIC	100PF	10%	50V
C101	1-162-294-31	CERAMIC	0.001MF	10%	50V
C102	1-124-927-11	ELECT	4.7MF	20%	50V
C103	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-126-233-11	ELECT	22MF	20%	25V
C105	1-124-927-11	ELECT	4.7MF	20%	50V
C106	1-124-791-11	ELECT	1MF	20%	50V
C107	1-161-044-00	CERAMIC	0.0027MF	10%	25V
C108	1-124-927-11	ELECT	4.7MF	20%	50V
C109	1-162-282-31	CERAMIC	100PF	10%	50V
C110	1-124-927-11	ELECT	4.7MF	20%	50V
C111	1-161-021-11	CERAMIC	0.047MF	10%	25V
C112	1-124-927-11	ELECT	4.7MF	20%	50V
C113	1-162-292-31	CERAMIC	680PF	10%	50V
C114	1-162-282-31	CERAMIC	100PF	10%	50V
C115	1-124-446-11	ELECT	47MF	20%	10V
C117	1-124-443-00	ELECT	100MF	20%	10V
C118	1-130-495-00	MYLAR	0.1MF	5%	50V
C119	1-124-473-11	ELECT	1000MF	20%	10V
C124	1-162-294-31	CERAMIC	0.001MF	10%	50V
C201	1-162-294-31	CERAMIC	0.001MF	10%	50V
C202	1-124-927-11	ELECT	4.7MF	20%	50V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-126-233-11	ELECT	22MF	20%	25V
C205	1-124-927-11	ELECT	4.7MF	20%	50V
C206	1-124-791-11	ELECT	1MF	20%	50V
C207	1-161-044-00	CERAMIC	0.0027MF	10%	25V
C208	1-124-927-11	ELECT	4.7MF	20%	50V
C209	1-162-282-31	CERAMIC	100PF	10%	50V
C210	1-124-927-11	ELECT	4.7MF	20%	50V
C211	1-161-021-11	CERAMIC	0.047MF	10%	25V
C212	1-124-927-11	ELECT	4.7MF	20%	50V
C213	1-162-292-31	CERAMIC	680PF	10%	50V
C214	1-162-282-31	CERAMIC	100PF	10%	50V
C215	1-124-446-11	ELECT	47MF	20%	10V
C217	1-124-443-00	ELECT	100MF	20%	10V
C218	1-130-495-00	MYLAR	0.1MF	5%	50V
C219	1-124-473-11	ELECT	1000MF	20%	10V
C224	1-162-294-31	CERAMIC	0.001MF	10%	50V
C301	1-162-282-31	CERAMIC	100PF	10%	50V
C302	1-124-927-11	ELECT	4.7MF	20%	50V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-162-282-31	CERAMIC	100PF	10%	50V
C305	1-124-927-11	ELECT	4.7MF	20%	50V
C306	1-124-442-00	ELECT	330MF	20%	6.3V
C307	1-126-233-11	ELECT	22MF	20%	25V
C308	1-124-446-11	ELECT	47MF	20%	10V
C309	1-123-382-00	ELECT	3.3MF	20%	50V

Ref.No.	Part No.	Description			
C310	1-126-176-11	ELECT	220MF	20%	10V
C311	1-161-379-00	CERAMIC	0.01MF	30%	16V
C312	1-126-176-11	ELECT	220MF	20%	10V
C313	1-124-119-00	ELECT	330MF	20%	16V
C317	1-161-379-00	CERAMIC	0.01MF	30%	16V
C318	1-161-379-00	CERAMIC	0.01MF	30%	16V
C320	1-126-176-11	ELECT	220MF	20%	10V
C321	1-126-176-11	ELECT	220MF	20%	10V
C325	1-124-791-11	ELECT	1MF	20%	50V
C326	1-161-374-11	CERAMIC	0.0015MF	30%	16V
C327	1-124-446-11	ELECT	47MF	20%	10V
C329	1-130-481-00	MYLAR	0.0068MF	5%	50V
C331	1-161-379-00	CERAMIC	0.01MF	30%	16V
C332	1-126-017-11	ELECT	6800MF	20%	16V
C334	1-126-233-11	ELECT	22MF	20%	25V
C335	1-161-379-00	CERAMIC	0.01MF	30%	16V
C336	1-124-446-11	ELECT	47MF	20%	10V
C337	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C338	1-124-927-11	ELECT	4.7MF	20%	50V
C339	1-162-282-31	CERAMIC	100PF	10%	50V
C340	1-162-294-31	CERAMIC	0.001MF	10%	50V
C701	1-130-475-00	MYLAR	0.0022MF	5%	50V
C702	1-124-963-11	ELECT	33MF	20%	16V
C703	1-162-294-31	CERAMIC	0.001MF	10%	50V
C704	1-124-443-00	ELECT	100MF	20%	6.3V
C705	1-126-176-11	ELECT	220MF	20%	6.3V
C706	1-130-489-00	MYLAR	0.033MF	5%	50V
C707	1-131-386-00	TANTALUM	33MF	10%	3.15V
C708	1-130-489-00	MYLAR	0.033MF	5%	50V
C709	1-130-483-00	MYLAR	0.01MF	5%	50V
C710	1-124-963-11	ELECT	33MF	20%	16V
C711	1-162-207-31	CERAMIC	22PF	5%	50V
C712	1-162-207-31	CERAMIC	22PF	5%	50V
C713	1-124-472-11	ELECT	470MF	20%	10V
C714	1-161-379-00	CERAMIC	0.01MF	30%	16V
C715	1-136-173-00	FILM	0.47MF	5%	50V
C716	1-130-483-00	MYLAR	0.01MF	5%	50V
C717	1-162-294-31	CERAMIC	0.001MF	10%	50V
C718	1-124-902-00	ELECT	0.47MF	20%	50V
C719	1-162-851-11	CERAMIC	0.1MF		16V
C720	1-130-489-00	MYLAR	0.033MF	5%	50V
C721	1-124-963-11	ELECT	33MF	20%	16V
C722	1-130-475-00	MYLAR	0.0022MF	5%	50V
C723	1-161-021-11	CERAMIC	0.047MF	10%	25V
C724	1-162-294-31	CERAMIC	0.001MF	10%	50V
C725	1-136-165-00	FILM	0.1MF	5%	50V
C726	1-136-165-00	FILM	0.1MF	5%	50V
C727	1-124-963-11	ELECT	33MF	20%	16V
C728	1-131-377-00	TANTALUM	10MF	10%	6.3V
C729	1-136-165-00	FILM	0.1MF	5%	50V
C730	1-123-875-11	ELECT	10MF	20%	50V
C731	1-161-061-11	CERAMIC	0.068MF	10%	25V
C732	1-162-215-31	CERAMIC	47PF	5%	50V
C733	1-124-963-11	ELECT	33MF	20%	16V
C734	1-130-481-00	MYLAR	0.0068MF	5%	50V
C735	1-162-284-31	CERAMIC	150PF	10%	50V
C736	1-161-379-00	CERAMIC	0.01MF	30%	16V

Ref.No.	Part No.	Description			
C737	1-161-379-00	CERAMIC	0.01MF	30%	16V
C738	1-161-379-00	CERAMIC	0.01MF	30%	16V
C739	1-161-379-00	CERAMIC	0.01MF	30%	16V
C740	1-124-963-11	ELECT	33MF	20%	16V
C743	1-130-479-00	MYLAR	0.0047MF	5%	50V
C744	1-124-791-11	ELECT	1MF	20%	50V
C745	1-130-475-00	MYLAR	0.0022MF	5%	50V
C746	1-130-471-00	MYLAR	0.001MF	5%	50V
C747	1-102-966-00	CERAMIC	43PF	5%	50V
C748	1-126-176-11	ELECT	220MF	20%	6.3V
C749	1-124-791-11	ELECT	1MF	20%	50V
C750	1-130-488-00	MYLAR	0.027MF	5%	50V
C751	1-124-791-11	ELECT	1MF	20%	50V
C752	1-124-604-00	ELECT	330MF	20%	10V
C753	1-126-176-11	ELECT	220MF	20%	6.3V
C754	1-124-438-00	ELECT	1MF	20%	50V
C755	1-130-475-00	MYLAR	0.0022MF	5%	50V
C756	1-130-471-00	MYLAR	0.001MF	5%	50V
C757	1-102-966-00	CERAMIC	43PF	5%	50V
C758	1-124-791-11	ELECT	1MF	20%	50V
C759	1-124-791-11	ELECT	1MF	20%	50V
C760	1-130-488-00	MYLAR	0.027MF	5%	50V
C761	1-136-173-00	FILM	0.47MF	5%	50V
C763	1-162-199-31	CERAMIC	10PF	5%	50V
C764	1-162-199-31	CERAMIC	10PF	5%	50V
C765	1-162-294-31	CERAMIC	0.001MF	10%	50V
C770	1-124-360-00	ELECT	1000MF	20%	16V
C771	1-124-791-11	ELECT	1MF	20%	50V
C772	1-123-382-00	ELECT	3.3MF	20%	50V
C773	1-123-382-00	ELECT	3.3MF	20%	50V
C774	1-123-382-00	ELECT	3.3MF	20%	50V
C775	1-123-382-00	ELECT	3.3MF	20%	50V
C780	1-124-963-11	ELECT	33MF	20%	16V
C781	1-124-963-11	ELECT	33MF	20%	16V
C784	1-126-176-11	ELECT	220MF	20%	6.3V
C790	1-161-379-00	CERAMIC	0.01MF	30%	16V
C791	1-124-927-11	ELECT	4.7MF	20%	50V
C792	1-124-791-11	ELECT	1MF	20%	50V
C794	1-124-791-11	ELECT	1MF	20%	50V
C801	1-124-963-11	ELECT	33MF	20%	16V
C802	1-161-379-00	CERAMIC	0.01MF	30%	16V
C803	1-162-219-31	CERAMIC	68PF	5%	50V
C804	1-162-219-31	CERAMIC	68PF	5%	50V
C851	1-162-292-31	CERAMIC	680PF	10%	50V
C852	1-162-215-31	CERAMIC	47PF	5%	50V
C853	1-162-215-31	CERAMIC	47PF	5%	50V
C856	1-101-004-00	CERAMIC	0.01MF		50V
C901	1-101-005-00	CERAMIC	0.022MF		50V
C902	1-101-005-00	CERAMIC	0.022MF		50V
C903	1-101-005-00	CERAMIC	0.022MF		50V
C904	1-101-005-00	CERAMIC	0.022MF		50V
CF1, CF3	1-567-166-00	FILTER, CERAMIC			
CF2	1-527-870-00	FILTER			

Ref.No.	Part No.	Description
CN701	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P
CN702	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P
CN703	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P
CN704	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P
CN705	*1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P
CN706	*1-562-477-11	CONNECTOR (SOCKET) 3P
CN711	*1-562-650-11	SOCKET, CONNECTOR 8P
CN713	*1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P
CN811	*1-566-970-11	HOUSING, CONNECTOR(PC BOARD)8P
CN812	*1-565-980-11	HOUSING,CONNECTOR(PC BOARD) 9P
CN813	*1-568-451-11	HOUSING,CONNECTOR(PC BOARD)10P
⚠CNJ901	1-526-818-11	INLET, AC (AC IN)
CNP21	*1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P
CNP302	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CNP304	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P
CNP305	*1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P
CNP306	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CNP601	*1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P
CNP903	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CT1-4 CV1-4	1-151-624-11	CAP, VARIABLE
D11	8-719-918-76	DIODE GL-3PR-9 (LED)
D301	8-719-921-48	DIODE MTZJ-5.6C
D302	8-719-911-19	DIODE 1SS119
D303	8-719-911-19	DIODE 1SS119
D304	8-719-921-58	DIODE MTZJ-6.8A
D305	8-719-911-19	DIODE 1SS119
D306	8-719-911-19	DIODE 1SS119
D307	8-719-918-76	DIODE GL-3PR-9 (LED)
D308	8-719-911-19	DIODE 1SS119
D309	8-719-911-19	DIODE 1SS119
D310	8-719-911-19	DIODE 1SS119
D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119
D801	8-719-911-19	DIODE 1SS119
D802	8-719-911-19	DIODE 1SS119
D804	8-719-911-19	DIODE 1SS119
D805	8-719-911-19	DIODE 1SS119
D901 ⚠	8-719-902-17	DIODE U15G
D902 ⚠	8-719-902-17	DIODE U15G
D903 ⚠	8-719-902-17	DIODE U15G
D904 ⚠	8-719-902-17	DIODE U15G
F901 ⚠	1-532-745-11	FUSE, GLASS TUBE
FH901	1-533-217-31	HOLDER, FUSE
FH902	1-533-217-31	HOLDER, FUSE
FL1	1-236-022-11	FILTER, BAND PASS
HE601	1-543-525-11	HEAD, MAGNETIC (ERASE)
HRP601	1-543-319-11	HEAD, MAGNETIC (REC/PB)
IC1	8-752-035-68	IC CXA1238S
IC301	8-759-942-24	IC BA3312N
IC302	8-759-820-22	IC LA4597
IC701	8-752-033-14	IC CXA1081Q
IC702	8-752-032-32	IC CXA1182Q-Z
IC703	8-752-332-40	IC CXD1130Q
IC704	8-752-323-64	IC CXK5816M-12L
IC706	8-759-945-58	IC RC4558P
IC707	8-759-148-30	IC UPD6376
IC708	8-759-984-37	IC BA6293
IC709	8-759-984-37	IC BA6293
IC801	8-752-814-10	IC CXP5024-092Q
IC802	8-759-945-58	IC RC4558P
IC804	8-759-971-11	IC PST529D
J301	1-563-330-11	JACK (MIX MIC)
J302	1-566-891-11	JACK (HEADPHONES)
KH301	*1-565-386-11	HOLDER, CABLE 5P
KH302	*1-565-384-11	HOLDER, CABLE 3P
KH901	*1-565-385-11	HOLDER, CABLE 4P
L1	1-420-855-00	CAIL, FM ANT
L2	1-406-161-11	COIL, FM OSCILLATOR
L3	1-402-416-11	ANTENNA, FERRITE-ROD (MW)
L4	1-406-040-00	COIL (OSC)
L301	1-410-324-11	INDUCTOR 4.7UH
L302	1-410-324-11	INDUCTOR 4.7UH
L303	1-410-324-11	INDUCTOR 4.7UH
L304	1-410-324-11	INDUCTOR 4.7UH
L305	1-410-324-11	INDUCTOR 4.7UH
L701	1-410-316-11	INDUCTOR 1UH
L702	1-410-678-31	INDUCTOR 220UH
L703	1-410-316-11	INDUCTOR 1UH
L704	1-410-678-31	INDUCTOR 220UH
L705	1-424-090-11	COIL, LINE FILTER
LCD1	1-808-930-11	DISPLAY PANEL, LIQUID CRYSTAL
LF901 ⚠	1-424-150-11	TRANSFORMER, LINE FILTER
M601	1-541-625-11	MOTOR, DC
M701	X-2641-357-1	MOTOR ASSY, SLED
M702	X-2641-341-1	MOTOR ASSY, SPINDLE
Q101	8-729-900-74	TRANSISTOR DTC143TS
Q102	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q201	8-729-900-74	TRANSISTOR DTC143TS
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q303	8-729-905-67	TRANSISTOR 2SD1944-K
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q305	8-729-801-84	TRANSISTOR 2SB1013-4
Q306	8-729-900-89	TRANSISTOR DTC144ES
Q307	8-729-921-65	TRANSISTOR DTC143ES
Q308	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q309	8-729-281-53	TRANSISTOR 2SC1815GR
Q310	8-729-900-89	TRANSISTOR DTC144ES
Q701	8-729-801-84	TRANSISTOR 2SB1013-4
Q702	8-729-920-70	TRANSISTOR 2SC1740S-QR
Q703	8-729-920-70	TRANSISTOR 2SC1740S-QR
Q704	8-729-920-70	TRANSISTOR 2SC1740S-QR
Q705	8-729-900-63	TRANSISTOR DTA124ES
Q706	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q711	8-729-900-36	TRANSISTOR DTC124ES
Q712	8-729-920-70	TRANSISTOR 2SC1740S-QR
Q713	8-729-920-70	TRANSISTOR 2SC1740S-QR
Q714	8-729-900-63	TRANSISTOR DTA124ES

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Replace only with part number specified.

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Ref.No.	Part No.	Description			
Q791	8-729-900-36	TRANSISTOR DTC124ES			
Q792	8-729-900-36	TRANSISTOR DTC124ES			
Q801	8-729-900-63	TRANSISTOR DTA124ES			
Q802	8-729-900-74	TRANSISTOR DTC143TS			
Q803	8-729-920-70	TRANSISTOR 2SC1740S-QR			
R1	1-249-413-11	CARBON	470	5%	1/4W
R2	1-249-405-11	CARBON	100	5%	1/4W
R3	1-249-421-11	CARBON	2.2K	5%	1/4W
R5	1-249-423-11	CARBON	3.3K	5%	1/4W
R6	1-249-441-11	CARBON	100K	5%	1/4W
R7	1-249-415-11	CARBON	680	5%	1/4W
R9	1-249-441-11	CARBON	100K	5%	1/4W
R10	1-249-397-11	CARBON	22	5%	1/4W
R11	1-249-427-11	CARBON	6.8K	5%	1/4W
R12	1-249-427-11	CARBON	6.8K	5%	1/4W
R13	1-249-405-11	CARBON	100	5%	1/4W
R14	1-249-429-11	CARBON	10K	5%	1/4W
R15	1-247-887-00	CARBON	220K	5%	1/4W
R16	1-247-887-00	CARBON	220K	5%	1/4W
R17	1-249-421-11	CARBON	2.2K	5%	1/4W
R19	1-249-415-11	CARBON	680	5%	1/4W
R20	1-249-423-11	CARBON	3.3K	5%	1/4W
R21	1-249-411-11	CARBON	330	5%	1/4W
R101	1-249-411-11	CARBON	330	5%	1/4W
R102	1-249-410-11	CARBON	270	5%	1/4W
R103	1-249-424-11	CARBON	3.9K	5%	1/4W
R104	1-249-406-11	CARBON	120	5%	1/4W
R105	1-249-429-11	CARBON	10K	5%	1/4W
R106	1-249-431-11	CARBON	15K	5%	1/4W
R107	1-249-420-11	CARBON	1.8K	5%	1/4W
R108	1-249-414-11	CARBON	560	5%	1/4W
R109	1-249-436-11	CARBON	39K	5%	1/4W
R110	1-249-429-11	CARBON	10K	5%	1/4W
R111	1-249-432-11	CARBON	18K	5%	1/4W
R112	1-249-421-11	CARBON	2.2K	5%	1/4W
R113	1-249-405-11	CARBON	100	5%	1/4W
R114	1-247-834-11	CARBON	1.3K	5%	1/4W
R115	1-247-893-11	CARBON	390K	5%	1/4W
R116	1-249-417-11	CARBON	1K	5%	1/4W
R117	1-249-401-11	CARBON	47	5%	1/4W
R118	1-249-387-11	(US)...CARBON	3.3	5%	1/4W
R118 ⚠	1-217-640-11	(Canadian)... FUSIBLE	3.3	5%	1/4W
R119	1-249-429-11	CARBON	10K	5%	1/4W
R120	1-249-404-00	CARBON	82	5%	1/4W
R122	1-249-430-11	CARBON	12K	5%	1/4W
R123	1-249-421-11	CARBON	2.2K	5%	1/4W
R124	1-249-431-11	CARBON	15K	5%	1/4W
R125	1-249-430-11	CARBON	12K	5%	1/4W
R126	1-249-421-11	CARBON	2.2K	5%	1/4W
R127	1-249-431-11	CARBON	15K	5%	1/4W
R201	1-249-411-11	CARBON	330	5%	1/4W
R202	1-249-410-11	CARBON	270	5%	1/4W
R203	1-249-424-11	CARBON	3.9K	5%	1/4W
R204	1-249-406-11	CARBON	120	5%	1/4W
R205	1-249-429-11	CARBON	10K	5%	1/4W
R206	1-249-431-11	CARBON	15K	5%	1/4W
R207	1-249-420-11	CARBON	1.8K	5%	1/4W

Ref.No.	Part No.	Description			
R208	1-249-414-11	CARBON	560	5%	1/4W
R209	1-249-436-11	CARBON	39K	5%	1/4W
R210	1-249-429-11	CARBON	10K	5%	1/4W
R211	1-249-432-11	CARBON	18K	5%	1/4W
R212	1-249-421-11	CARBON	2.2K	5%	1/4W
R213	1-249-405-11	CARBON	100	5%	1/4W
R214	1-247-834-11	CARBON	1.3K	5%	1/4W
R215	1-247-893-11	CARBON	390K	5%	1/4W
R216	1-249-417-11	CARBON	1K	5%	1/4W
R217	1-249-401-11	CARBON	47	5%	1/4W
R218 ⚠	1-217-640-11	(Canadian)... FUSIBLE	3.3	5%	1/4W
R218	1-249-387-11	(US)...CARBON	3.3	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-404-00	CARBON	82	5%	1/4W
R222	1-249-430-11	CARBON	12K	5%	1/4W
R223	1-249-421-11	CARBON	2.2K	5%	1/4W
R224	1-249-431-11	CARBON	15K	5%	1/4W
R225	1-249-430-11	CARBON	12K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W
R227	1-249-431-11	CARBON	15K	5%	1/4W
R301	1-249-421-11	CARBON	2.2K	5%	1/4W
R302	1-249-411-11	CARBON	330	5%	1/4W
R303	1-247-891-00	CARBON	330K	5%	1/4W
R304	1-249-421-11	CARBON	2.2K	5%	1/4W
R305	1-249-409-11	CARBON	220	5%	1/4W
R307	1-247-903-00	CARBON	1M	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-405-11	CARBON	100	5%	1/4W
R310	1-249-405-11	CARBON	100	5%	1/4W
R311 ⚠	1-217-640-11	(Canadian)... FUSIBLE	3.3	5%	1/4W
R311	1-249-387-11	(US)...CARBON	3.3	5%	1/4W
R312 ⚠	1-217-637-00	FUSIBLE	1	5%	1/4W F
R313 ⚠	1-217-637-00	FUSIBLE	1	5%	1/4W F
R314	1-249-411-11	CARBON	330	5%	1/4W
R315	1-249-417-11	CARBON	1K	5%	1/4W
R316	1-249-437-11	CARBON	47K	5%	1/4W
R317	1-249-407-11	CARBON	150	5%	1/4W
R318	1-249-425-11	CARBON	4.7K	5%	1/4W
R319	1-249-425-11	CARBON	4.7K	5%	1/4W
R320	1-249-389-11	CARBON	4.7	5%	1/4W
R321	1-249-408-11	CARBON	180	5%	1/4W
R322	1-249-437-11	CARBON	47K	5%	1/4W
R323	1-249-435-11	CARBON	33K	5%	1/4W
R325	1-249-425-11	CARBON	4.7K	5%	1/4W
R326	1-249-425-11	CARBON	4.7K	5%	1/4W
R329	1-249-416-11	CARBON	820	5%	1/4W
R330	1-247-816-11	CARBON	240	5%	1/4W
R331	1-249-425-11	CARBON	4.7K	5%	1/4W
R332	1-249-435-11	CARBON	33K	5%	1/4W
R701	1-249-433-11	CARBON	22K	5%	1/4W
R702	1-249-417-11	CARBON	1K	5%	1/4W
R703	1-249-433-11	CARBON	22K	5%	1/4W
R704	1-249-397-11	CARBON	22	5%	1/4W
R705	1-247-806-11	CARBON	91	5%	1/4W
R711	1-249-428-11	CARBON	8.2K	5%	1/4W

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Ref.No.	Part No.	Description				
R712	1-247-856-00	CARBON	11K	5%	1/4W	
R713	1-249-441-11	CARBON	100K	5%	1/4W	
R714	1-249-425-11	CARBON	4.7K	5%	1/4W	
R715	1-249-441-11	CARBON	100K	5%	1/4W	
R716	1-247-886-11	CARBON	200K	5%	1/4W	
R717	1-249-422-11	CARBON	2.7K	5%	1/4W	
R718	1-247-903-00	CARBON	1M	5%	1/4W	
R719	1-249-417-11	CARBON	1K	5%	1/4W	
R720	1-247-883-00	CARBON	150K	5%	1/4W	
R721	1-249-437-11	CARBON	47K	5%	1/4W	
R722	1-249-429-11	CARBON	10K	5%	1/4W	
R723	1-249-441-11	CARBON	100K	5%	1/4W	
R724	1-249-438-11	CARBON	56K	5%	1/4W	
R725	1-247-885-00	CARBON	180K	5%	1/4W	
R726	1-249-437-11	CARBON	47K	5%	1/4W	
R727	1-249-441-11	CARBON	100K	5%	1/4W	
R728	1-247-854-11	CARBON	9.1K	5%	1/4W	
R729	1-247-894-11	CARBON	430K	5%	1/4W	
R730	1-249-441-11	CARBON	100K	5%	1/4W	
R731	1-215-457-00	METAL	33K	1%	1/6W	
R732	1-215-457-00	METAL	33K	1%	1/6W	
R733	1-247-895-00	CARBON	470K	5%	1/4W	
R734	1-249-417-11	CARBON	1K	5%	1/4W	
R735	1-249-417-11	CARBON	1K	5%	1/4W	
R736	1-249-429-11	CARBON	10K	5%	1/4W	
R743	1-215-438-00	METAL	5.1K	1%	1/6W	
R744	1-215-461-00	METAL	47K	1%	1/6W	
R745	1-215-453-00	METAL	22K	1%	1/6W	
R746	1-215-461-00	METAL	47K	1%	1/6W	
R747	1-249-431-11	CARBON	15K	5%	1/4W	
R748	1-249-422-11	CARBON	2.7K	5%	1/4W	
R749	1-247-834-11	CARBON	1.3K	5%	1/4W	
R750	1-249-414-11	CARBON	560	5%	1/4W	
R751	1-247-903-00	CARBON	1M	5%	1/4W	
R752	1-249-430-11	CARBON	12K	5%	1/4W	
R753	1-215-438-00	METAL	5.1K	1%	1/6W	
R754	1-215-461-00	METAL	47K	1%	1/6W	
R755	1-215-453-00	METAL	22K	1%	1/6W	
R756	1-215-461-00	METAL	47K	1%	1/6W	
R757	1-247-887-00	CARBON	220K	5%	1/4W	
R758	1-249-422-11	CARBON	2.7K	5%	1/4W	
R759	1-247-834-11	CARBON	1.3K	5%	1/4W	
R760	1-249-414-11	CARBON	560	5%	1/4W	
R761	1-247-903-00	CARBON	1M	5%	1/4W	
R762	1-249-422-11	CARBON	2.7K	5%	1/4W	
R763	1-249-422-11	CARBON	2.7K	5%	1/4W	
R764	1-247-887-00	CARBON	220K	5%	1/4W	
R765	1-249-395-11	CARBON	15	5%	1/4W	
R766	1-249-395-11	CARBON	15	5%	1/4W	
R768	1-249-405-11	CARBON	100	5%	1/4W	
R770	1-215-453-00	METAL	22K	1%	1/6W	
R771	1-215-453-00	METAL	22K	1%	1/6W	
R772	1-215-453-00	METAL	22K	1%	1/6W	
R773	1-215-453-00	METAL	22K	1%	1/6W	
R774	1-215-429-00	METAL	2.2K	1%	1/6W	
R775	1-215-457-00	METAL	33K	1%	1/6W	
R776	1-215-457-00	METAL	33K	1%	1/6W	

Ref.No.	Part No.	Description				
R777	1-215-457-00	METAL	33K	1%	1/6W	
R778	1-215-433-00	METAL	3.3K	1%	1/6W	
R779	1-247-868-11	CARBON	36K	5%	1/4W	
R780	1-249-435-11	CARBON	33K	5%	1/4W	
R781	1-247-876-11	CARBON	75K	5%	1/4W	
R782	1-249-435-11	CARBON	33K	5%	1/4W	
R783	1-249-417-11	CARBON	1K	5%	1/4W	
R784	1-249-429-11	CARBON	10K	5%	1/4W	
R785	1-249-410-11	CARBON	270	5%	1/4W	
R786	1-249-425-11	CARBON	4.7K	5%	1/4W	
R787 ⚠	1-212-861-11	FUSIBLE	15	5%	1/4W	F
R789	1-249-433-11	CARBON	22K	5%	1/4W	
R791	1-247-838-00	CARBON	2K	5%	1/4W	
R792	1-249-437-11	CARBON	47K	5%	1/4W	
R793	1-249-429-11	CARBON	10K	5%	1/4W	
R794	1-249-405-11	CARBON	100	5%	1/4W	
R801	1-249-435-11	CARBON	33K	5%	1/4W	
R802	1-249-435-11	CARBON	33K	5%	1/4W	
R803	1-249-435-11	CARBON	33K	5%	1/4W	
R805	1-249-437-11	CARBON	47K	5%	1/4W	
R806	1-249-437-11	CARBON	47K	5%	1/4W	
R807	1-249-441-11	CARBON	100K	5%	1/4W	
R808	1-249-441-11	CARBON	100K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R810	1-249-405-11	CARBON	100	5%	1/4W	
R811	1-249-405-11	CARBON	100	5%	1/4W	
R821	1-249-441-11	CARBON	100K	5%	1/4W	
R851	1-215-457-00	METAL	33K	1%	1/6W	
R852	1-247-893-11	CARBON	390K	5%	1/4W	
R853	1-249-441-11	CARBON	100K	5%	1/4W	
R854	1-247-895-00	CARBON	470K	5%	1/4W	
R855	1-249-441-11	CARBON	100K	5%	1/4W	
RV1	1-228-995-00	RES, ADJ, CARBON 22K				
RV301	1-238-430-11	RES, VAR, CARBON 20K/20K (VOLUME)				
RV302	1-238-431-11	RES, VAR, CARBON 20K/20K (TONE)				
RV701	1-230-497-11	RES, ADJ, CARBON 20K				
RV702	1-230-498-11	RES, ADJ, CARBON 50K				
RV703	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K				
RV704	1-230-497-11	RES, ADJ, CARBON 20K				
RV705	1-230-497-11	RES, ADJ, CARBON 20K				
S301	1-572-236-11	SWITCH, LEVER SLIDE				
S302	1-572-235-11	SWITCH, SLIDE (FUNCTION)				
S601	1-554-495-00	SWITCH, LEAF (MOTOR POWER)				
S801	1-570-822-11	SWITCH, LEAF (OPEN/CLOSE)				
S802	1-571-936-11	SWITCH, LEAF (LIMIT)				
S803	1-554-303-21	SWITCH, KEYBOARD (▶)				
S804	1-554-303-21	SWITCH, KEYBOARD (■)				
S805	1-554-303-21	SWITCH, KEYBOARD (▶▶|)				
S806	1-554-303-21	SWITCH, KEYBOARD (|◀◀)				
S807	1-554-303-21	SWITCH, KEYBOARD (❙❙)				
S808	1-554-303-21	SWITCH, KEYBOARD (PLAY MODE)				
S809	1-554-303-21	SWITCH, KEYBOARD (REMAIN)				
SP801	1-544-154-11	SPEAKER				
SP802	1-544-154-11	SPEAKER				

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
T1	1-404-355-00	TRANSFORMER, IF
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR
T901	⚠1-449-897-11	TRANSFORMER, POWER
W711	*1-562-650-11	SOCKET, CONNECTOR 8P
W716	1-506-569-11	PIN, CONNECTOR 3P
W801	*1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P
W802	*1-568-454-11	PIN, CONNECTOR (PC BOARD) 9P
W803	*1-568-455-11	PIN, CONNECTOR (PC BOARD) 10P
X801	1-567-094-00	VIBRATOR, CERAMIC 3.58MHz
XF701	1-567-908-11	VIBRATOR, CRYSTAL 16.9344MHz

ACCESSORY & PACKING MATERIAL

⚠1-559-047-11	CORD, POWER
3-751-268-21	MANUAL, INSTRUCTION
3-751-268-31	(Canadian)...MANUAL, INSTRUCTION
*4-936-045-01	CUSHION (L)
*4-936-046-01	CUSHION (R)
*4-936-047-01	INDIVIDUAL CARTON

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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SONY
SERVICE MANUAL

US Model
Canadian Model

SUPPLEMENT-1

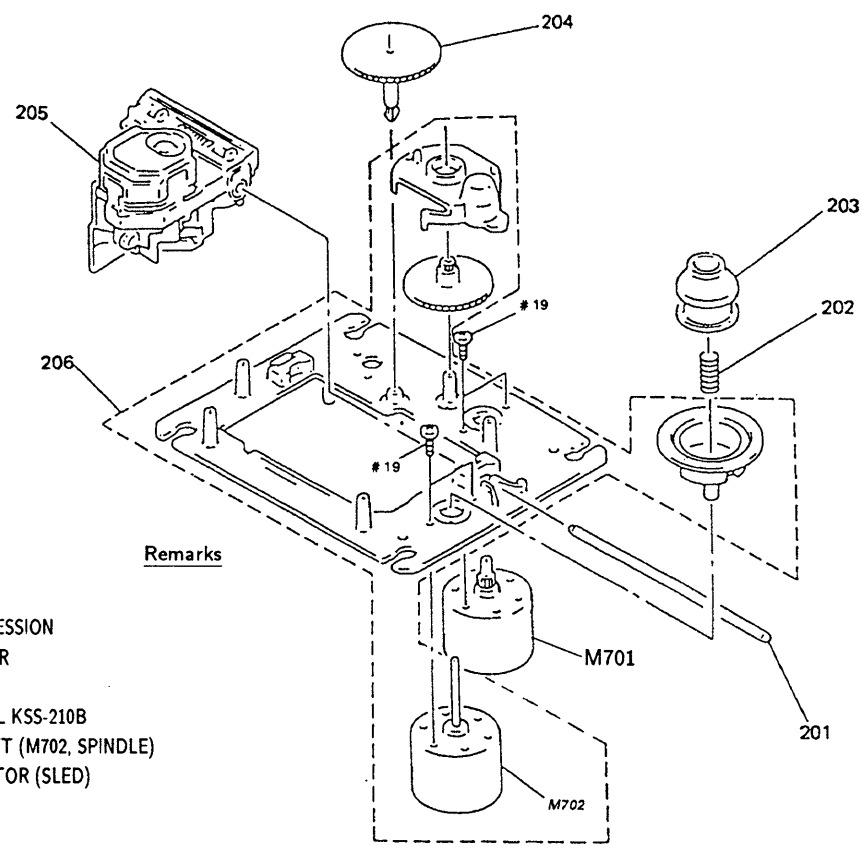
File this supplement with the service manual.

Subject : KSM-2101 BAN Optical Block Parts

The KSM-210 BAN and KSM-2101 BAN optical blocks were used in the CFD-50, but the Service Manual only shows the parts for KSM-210 BAN optical block. The type of optical block used in this model is marked on the optical block's chassis.

Refer to the following diagram for KSM-2101 BAN optical block parts :

OPTICAL BLOCK
(KSM-2101 BAN)



No.	Part No.	Description	Remarks
201	4-917-565-01	SHAFT, SLED	
202	2-625-191-01	SPRING, COMPRESSION	
203	2-625-186-01	RING (C), CENTER	
204	2-625-188-02	GEAR (A)	
205	⚠ 8-848-137-11	DEVICE, OPTICAL KSS-210B	
206	X-2625-133-1	CHASSIS ASSY, TT (M702, SPINDLE)	
M701	X-2625-132-1	GEAR ASSY, MOTOR (SLED)	
#19	7-621-255-15	SCREW +P 2×3	

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